User Guide

812L VoIP ATA Router

September 2006

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1. Getting Started

1.1 Introduction

Congratulations on your purchase of the of the OPEN812L VoIP ATA router. The VoIP Analogue Telephone Adapter (ATA) product is a standard-based communication device that delivers true, next-generation voice-over-IP (VoIP) terminations to residential homes worldwide. VoIP is a form of Internet telephony that allows users to make telephone calls through the Internet. Voice data is sent through a packet-switched network instead of the circuit-switch transmission. The VoIP system send signals to set up or terminate calls and then make it possible for people to talk and hear each other online. Internet Telephony employs a variety of protocols, including RTP for transport of multimedia data and SIP for call signalling and control.

The VoIP ATA connects to your broadband router and your telephone, acting as a go-between and performing the signal translation that allows your analogue telephone to communicate through your broadband connection. The VoIP ATA is a mixed-environment adaptor that interface legacy analogue telephones, fax machines, analogue telephones and other analogue devices to IP-based technology networks, thereby allowing users and VSPs to protect prior investments in their analogue telephones, fax machine and speaker phones, and migrate to IP at their own pace.

1.2 Main Features & Benefits

Analogue telephone adapters allow customers to convert their Plain Old Telephone Service (POTS) phone or fax machine into a SIP VoIP phone and begin taking immediate advantage of low-cost Internet telephony services. Users simply connect their analogue phone into the OPEN 812L VoIP ATA router and the ATA provides both voice and tone to the POTS phone.

The following table is a summary of the features and benefits of the OPEN 812L VoIP ATA Router.

OPEN812L VoIP ATA Features/Benefits	
Hardware Features	■ 2 x FXS ■ 1 x FXO ■ 2 x 10/100 Auto MDI/MDIx (10/100Base-T Ethernet)
Ease-of-Configuration	Provides advanced auto-configuration features like 10/100 auto-negotiation, auto MDI / MDIX crossover, DHCP, STUN.
Toll-quality voice performance using advance QoS	Call in and Call out features Port priority for VoIP packets from the QoS function Voice-over-IP call through SIP Proxy Support incoming and outgoing PSTN calls IP address calling (peer to peer mode) 3-way IP Conferencing 3-way IP/PSTN Conference call Call Features ■ Call waiting ■ Call Hold ■ Call Forwarding (No Answer, Busy and All) ■ Caller ID ■ Call Transfer
Expansive Audio Support & Protocols	G.711U Speech Codec G.711A Speech Codec G.726-16/24/32/40 Speech/Audio Codec G.729A Speech Codec SIP 2.0 T.38 Fax-over-IP support Voice Activity Detection Silence Compression Silence Compression

	Comfort Noise Generation Echo Cancellation
Setup & Configuration	Automated provisioning (VSP-dependant) Web-based Configuration Password Protection
Network Status	Static IP Network Address Translation (NAT) NAT Traversal with STUN client NAT with outbound proxy Port Mapping/Forwarding NAT Application Level Gateway for popular applications DHCP Server/Relay/Client DNS Relay Agent QoS using Diffserv and Priority Queuing Single VPN Pass Through for IPSEC, L2TP, PPTP DMZ Support PPP Auto Reconnect Dynamic DNS Support Web Management Support FTP Management Support Transparent bridge support (routing) Easy Connect Firewall (NAT-based) Proven performance and reliability

2. Information About the ATA

2.1 Important Safety Instructions

WARNING!

BEFORE USING YOUR ATA EQUIPMENT, BASIC SAFETY INSTRUCTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK AND INJURY TO PERSON, INCLUDING THE FOLLOWING:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. When cleaning this product, do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this router in high humidity or high temperatures.
5. Do not open or repair the case yourself. If this router is too hot, turn off the power immediately and have it repaired at a qualified service centre.
6. Avoid using this product and all accessories outdoors.
7. Place this router on a stable surface.
8. Only use the power adaptor that comes with the package. Using a different voltage-rating adaptor may damage this router.
9. Slots and openings on the sides and top of the device are provided for ventilation. To protect it from overheating, these openings must not be blocked or covered. The opening should never be blocked by placing the product on the bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
10. Do not allow anything sharp to rest on the cables. Do not locate this product where the cord could be damaged by persons walking on it.
11. Do not overload wall outlet extension cords, as this can result in the risk of fire or electric shock.
12. To reduce the risk of electric shock, do not disassemble this product. Instead, when some repair work is required, take the unit to the place of purchase. Opening or removing covers on the router will void the warranty that comes with the product.
13. Unplug this product from the wall outlet and refer servicing to the place of purchase under the following conditions:
    a. When the power supply cord or plug is damaged or frayed;
    b. If liquid has been spilled onto the product;
    c. If the product has been exposed to rain or water;
    d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation;
    e. If the product has been dropped or damaged;
    f. If the product exhibits a distinct change in performance.

SAVE THESE INSTRUCTIONS

2.2 Package Contents

The OPEN 812L VoIP ATA Router contains the following items:

- OPEN 812L VoIP ATA Router
- User Guide CD
- RJ-11 ADSL/telephone Cable
- Ethernet (CAT-5) LAN Cable
- AC-DC power adaptor (12VDC, 800mA)
- Quick Start Guide

2.3 Appearance

2.3.1 Front Panel Indicators

Figure 2-1 displays the front panel indicators of the VoIP ATA.

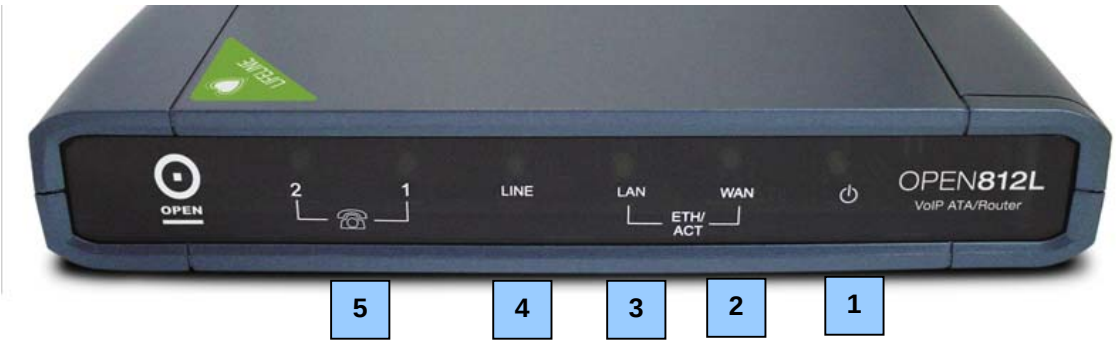


Figure 2-1 Front Panel Indicators

LED		Status	LED Label Description
1	**POWER**	ON	Lit when the power is on; the VoIP ATA is receiving power.
2	**WAN**	ON	Lit when the VoIP ATA has an Ethernet connection with cable/DSL modem.
		BLINKING	The VoIP ATA is sending/receiving data to/from the cable/DSL modem.
		OFF	The VoIP ATA does not have an Ethernet connection with the cable/DSL modem.
3	**LAN**	ON	Lit when the VoIP ATA has an Ethernet connection with a computer.
		BLINKING	The VoIP ATA is sending/receiving data to/from the computer.
		OFF	The VoIP ATA does not have an Ethernet connection with a computer.
4	**LINE**	ON	The VoIP ATA has an active PSTN call.
		BLINKING	The VoIP ATA has an incoming PSTN call.
		OFF	The VoIP ATA does not have an active PSTN call.
5	**PHONE 1-2**	ON	This port(s) is registered to the Internet Phone Service Provider(s).
		BLINKING	The telephone connected to this port is off the hook.
		OFF	This port(s) is not registered to the Voice Service Provider (VSP). Contact your VSP to register for a phone line before installing the router.

2.3.2 Rear Panel Indicators

Figure 2-2 displays the real panel indicators of the VoIP ATA.

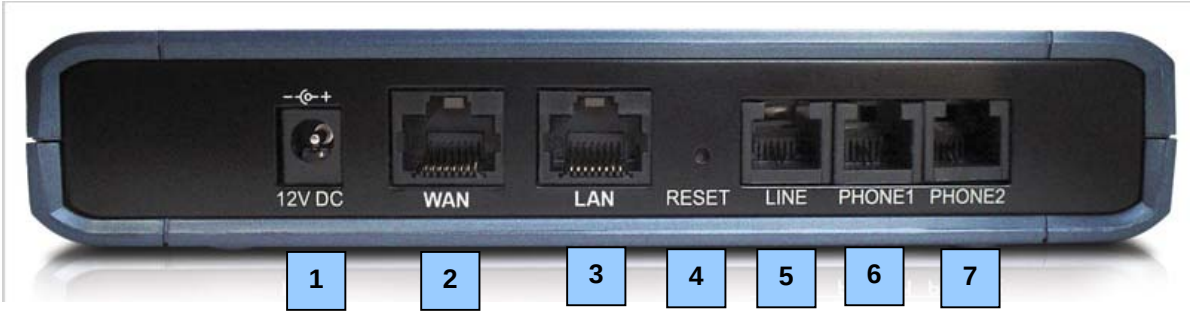


Figure 1-2: Rear Panel Indicators

PORT	Item	PORT LABEL DESCRIPTION
1	**12V DC**	Connect your power adapter to the **12V DC.** Use only the power adapter provided.
2	**WAN**	The **WAN** port allows you to connect the VoIP ATA to you router using Category-5 (or better) Ethernet network cable (RJ-45). Connect your modem or router to the WAN port.
3	**LAN**	The **LAN** port allows you to connect the VoIP ATA to your computer using a Category-5 (or better) Ethernet network cable (RJ-45). Connect the Ethernet cable to the LAN port on one end and connect the other to your computer or an office/home network.
4	**RESET**	The **RESET** button allows you to restore the VoIP ATA's default factory settings. To reset the router, press and hold the button for 3 seconds. The OPEN 812L VoIP ATA router should reboot after you release the button.
5	**LINE**	This is the Lifeline. If your broadband connection is 'off line', you can make calls using your traditional line as a backup. The Lifeline port allows you to connect your normal PSTN line to the VoIP ATA. To activate this function, connect a phone cable from your wall phone jack to the Lifeline port.
6	**PHONE 1**	Connect an analogue phone to this port.
7	**PHONE 2**	Connect an additional analogue phone to this port, if used.

NOTE	***All customized settings that you have saved will be lost upon resetting the VoIP ATA to default factory settings.***

3. Connecting the ATA Router

The router can be configured with your web browser. A web browser is included as a standard application in the following operating systems: Linux, Mac OS, Windows 98/NT/2000/XP/Me, etc. The product provides a very easy and user-friendly interface for configuration.

Computers must have an Ethernet interface installed properly and be connected to the router either directly or through an external repeater hub, and have TCP/IP installed and configured to obtain an IP address through a DHCP server or a fixed IP address that must be in the same subnet as the router. The default IP address of the router is 192.168.10.1 and the subnet mask is 255.255.255.0 (i.e. any attached computer must be in the same subnet, and have an IP address in the range of 192.168.10.1 to 192.168.10.253). The best and easiest way is to configure the computer to get an IP address automatically from the router using DHCP.

If you encounter any problems accessing the router's web interface it may be advisable to uninstall any kind of software firewall on your computers, as they can cause problems accessing the 192.168.10.1 IP address of the router. Users should make their own decisions on how to best protect their network.

As a quick reference, please follow the Quick Start Guide enclosed with your OPEN 812L VoIP ATA router on how to connect your cable or DSL modem and your computer. Alternatively, you may follow the steps in this guide for your computer's network environment installation. These are examples of how to use your OPEN 812L VoIP ATA router. It is recommended to check your network components and ensure that your PC or Notebook has an Ethernet port.

3.1 Single-User Connection Via ADSL

Step 1: Connect the power adaptor provided into the OPEN 812L VoIP ATA router and plug the unit into a power source. Make sure the PWR LED is steadily lit.

Step 2: Connect your ADSL modem to the WAN port at the back of the OPEN 812L VoIP ATA router using the Ethernet cable provided. The WAN LED should be steadily lit.

Step 3: Connect an Ethernet cable into the LAN port of the OPEN 812L VoIP ATA router. Connect the other end of the cable to your computer. The LAN LED should be steadily lit.

Step 4: Connect a phone cable into the LINE (Lifeline) port, if using as a backup. Connect the other end of the cable to the line splitter or wall phone jack.

Step 5: Connect your analogue phone(s) to the phone Port 1 and/or 2 using a phone cable(s).

The following diagram shows a typical single-user connection.

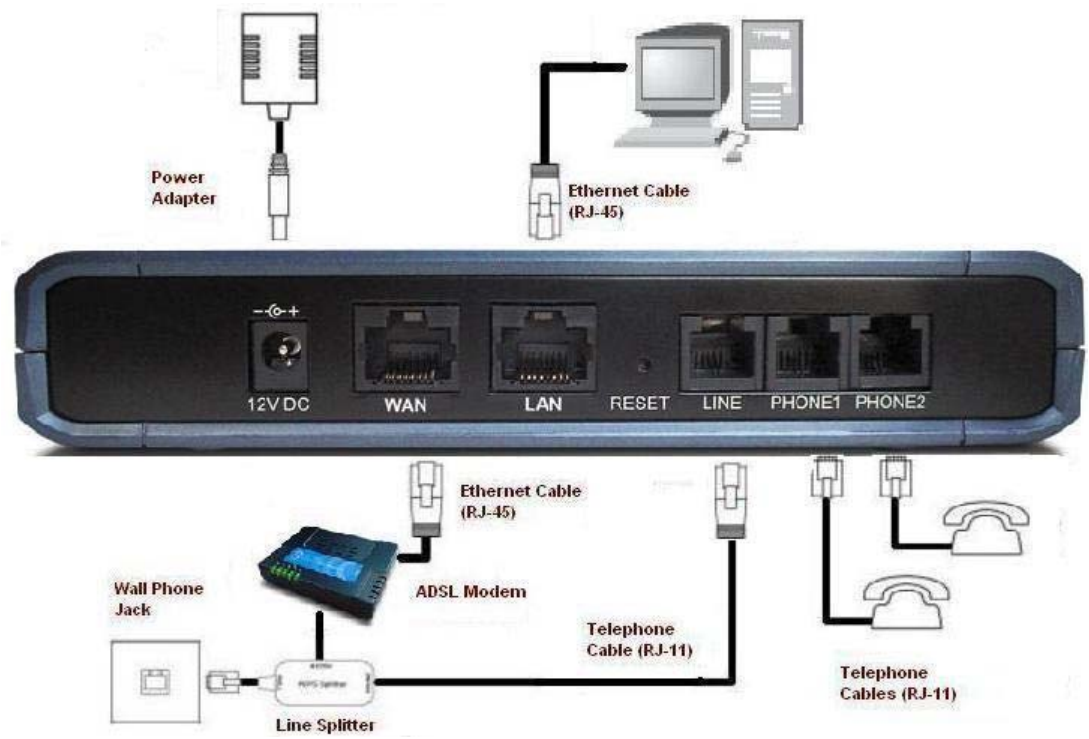


Figure 3-1: Connection via ADSL

NOTE	***Before you connect to the OPEN 812L VoIP ATA router, you need to have an ADSL modem.***

3.2 Single-User Cable Connection

Step 1: Connect the power adapter provided into the OPEN 812L VoIP ATA router and plug the unit into a power source. Make sure the PWR LED is steadily lit.

Step 2: Connect your cable modem to the WAN port at the back of the OPEN 812L VoIP ATA router using the Ethernet cable provided.

Step 3: Connect an Ethernet cable into the LAN port of the OPEN 812L VoIP ATA router. Connect the other end of the cable to your computer. The LAN LED should be steadily lit.

Step 4: Connect a phone cable to the LINE (Lifeline) port if using as a backup.

Step 5: Connect your analogue phone(s) to the phone Port 1 and/or 2 using a phone cable(s).

The following shows a typical single-user cable connection.

Figure 3-2: Single-User Connection via Cable

NOTE	***Before you connect to the ATA, you need to have a Cable modem.***

3.3 Single-User Company Network Connection

Step 1: Connect the power adapter provided into the ATA and plug the unit into a power source. Make sure the PWR LED is steadily lit. Turn on the device.

Step 2: Connect an Ethernet cable into the LAN port of the ATA using the Ethernet cable provided. Connect the other end of the cable to your computer. The LAN LED should be steadily lit.

Step 3: Connect your company network to the WAN port at the back of the ATA using the Ethernet cable provided. The WAN LED should be steadily lit.

Step 4: Connect a phone cable to the LINE (Lifeline) port if using as a backup.

Step 5: Connect your analogue phone(s) to the phone Port 1 and/or 2 using a phone cable (RJ-11).

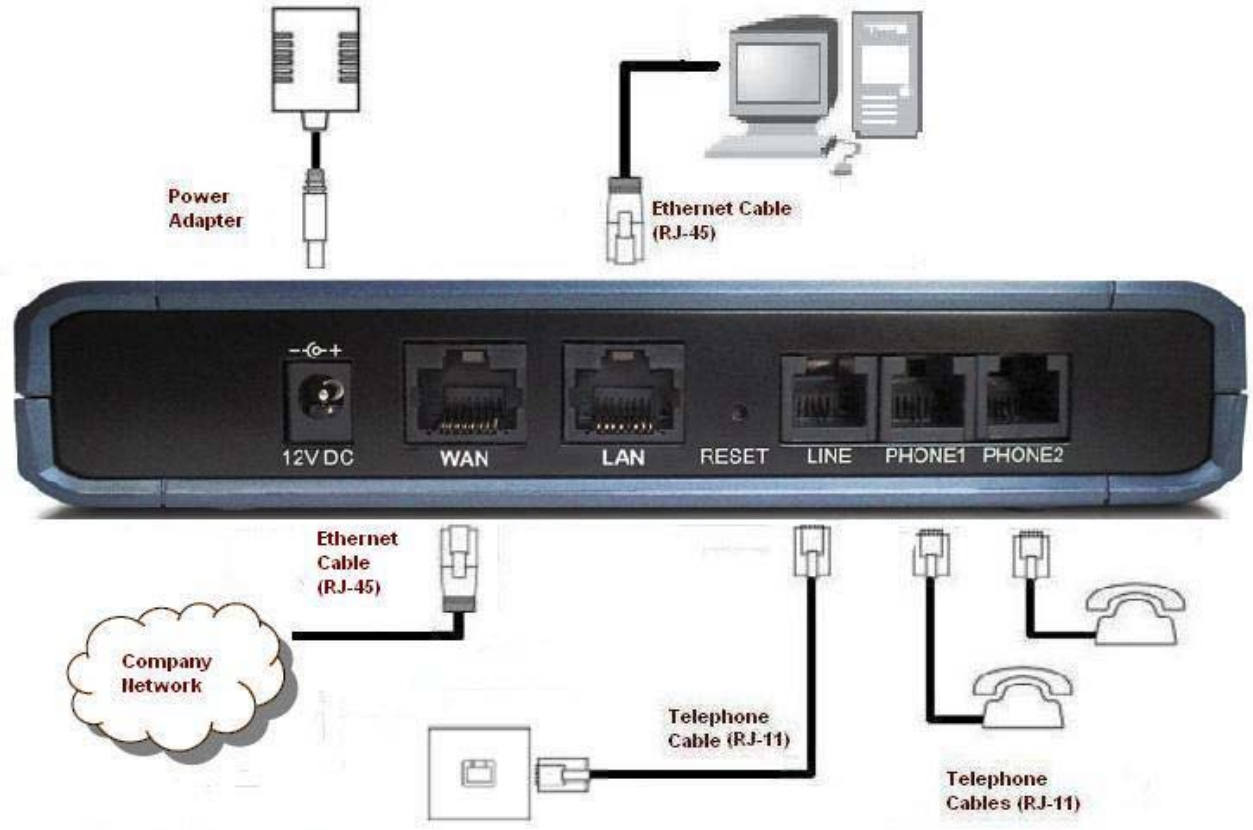


Figure 3-3: Single-User Company Network Connection

3.4 Multiple-Users Connection Via ADSL

If you want to connect more than one PC/notebook, you may do so by connecting the OPEN 812L VoIP ATA router to a switch/hub.

To do this, follow the steps provided below.

Step 1: Connect the power adapter provided into the OPEN 812L VoIP ATA router and plug the unit into a power source. Make sure the PWR LED is steadily lit.

Step 2: Connect your ADSL modem to the WAN port of the OPEN 812L VoIP ATA router using the Ethernet cable provided. The WAN LED should be steadily lit.

Step 3: Connect an Ethernet cable into the LAN port of the OPEN 812L VoIP ATA router. Connect the other end of the cable to the hub/switch. The LAN LED should be steadily lit.

Step 4: Connect your computers/notebooks to the hub/switch using the Ethernet cables.

Step 5: Connect a phone cable to the LINE (Lifeline) port if using as a backup.

Step 6: Connect your analogue phone(s) to the phone Port 1 and/or 2 using a phone cable (RJ-11).

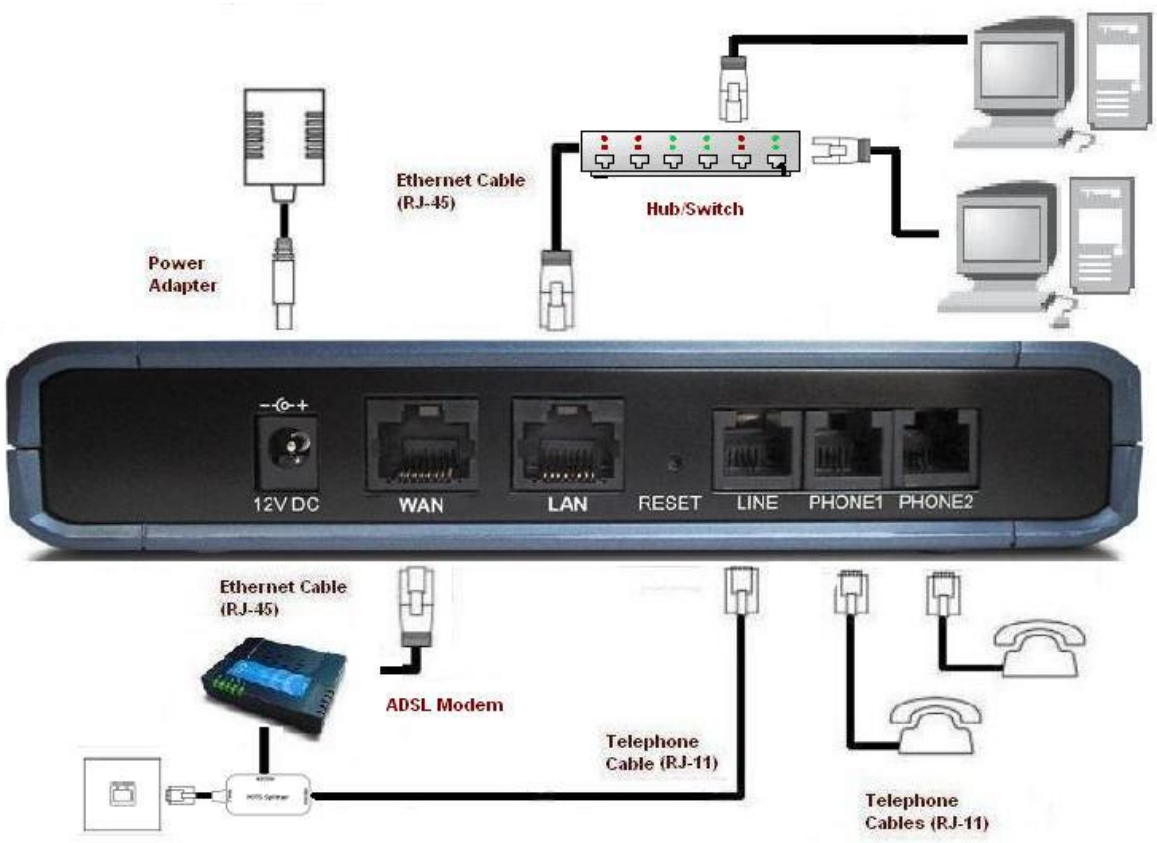


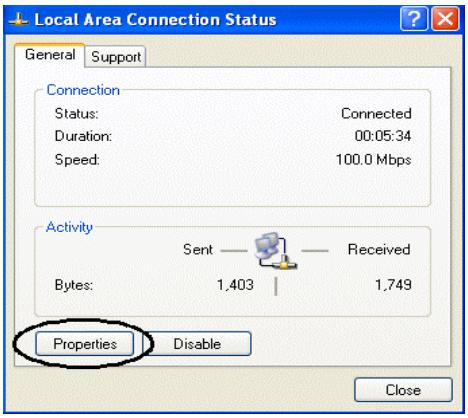
Figure 3-4: Multiple Users Connection Via ADSL

4. PC Network Configuration

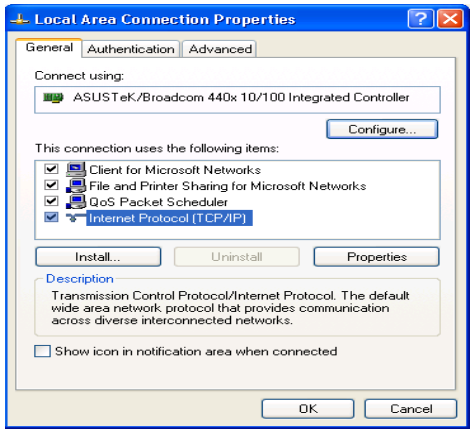
4.1 Configuring Computers in Windows XP

Step 1: Click ***Start/Control Panel*** (in Classic View). From the *Control Panel* window, double-click ***Network Connections.*** The following appears:

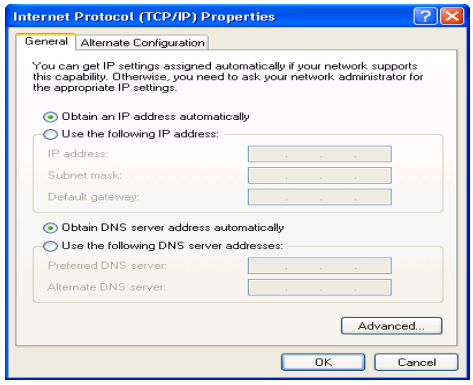
Step 2: Double-click the ***Local Area Network connection*** name required. The following appears:



Step 3: Click ***Properties.*** The following appears:



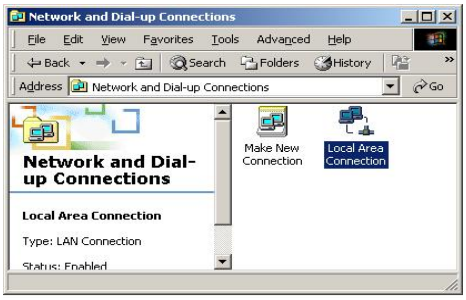
Step 4: Ensure the *General* tab is active and highlight *Internet Protocol (TCP/IP).* Click the ***OK*** button. The following appears:


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

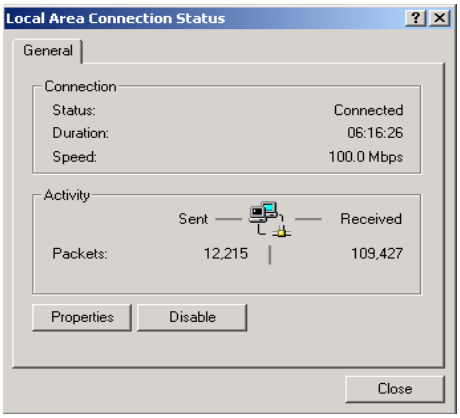
Step 5: Ensure the *Obtain an IP address automatically* and the *Obtain DNS server address automatically* radio buttons. Click the ***OK*** button to complete the configuration.

4.2 Configuring Computers in Windows 2000

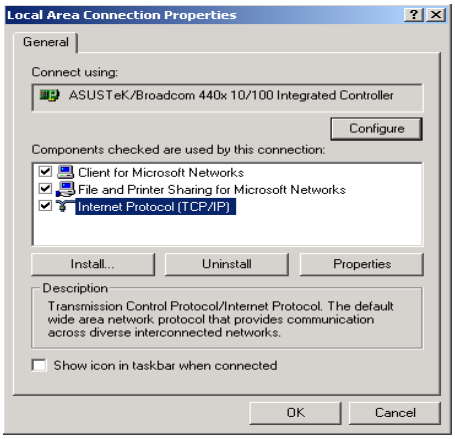
Step 1: Click **Start/Control Panel**. From the *Control Panel* window, double-click **Network and Dial-up Connections**. The following appears:



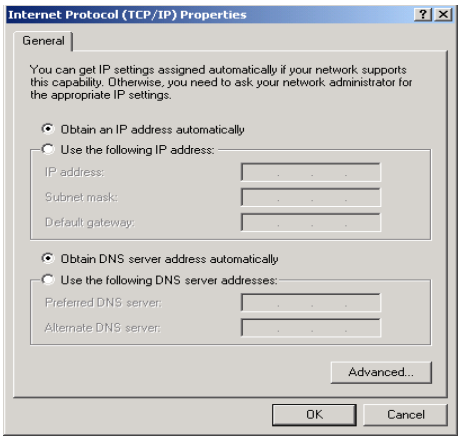
Step 2: Double-click the ***Local Area Network*** connection name required. The following appears:



Step 3: From the *Local Area Connection Status* window, click ***Properties***. The following appears:



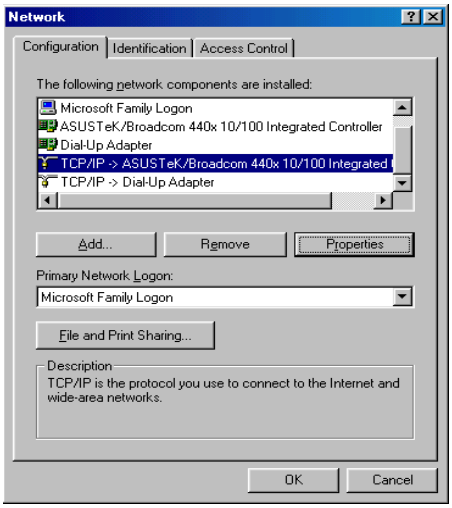
Step 4: Highlight ***Internet Protocol (TCP/IP)*** and click ***Properties***. The following appears:


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

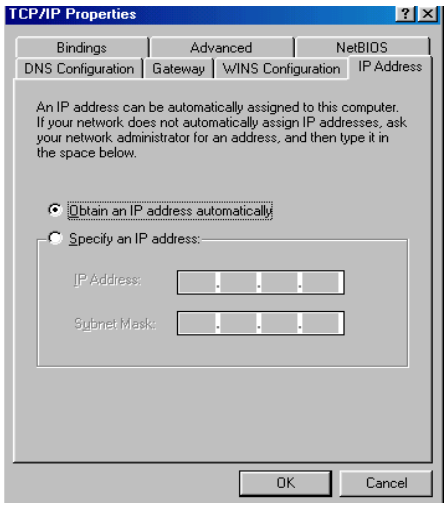
Step 5: Highlight the *Obtain an IP address Automatically* and the *Obtain DNS Server Address Automatically* radio buttons. Click the ***OK*** button to complete the configuration.

4.3 Configuring Computers In Windows 95/98/ME

Step 1: Click the ***Start/Control Panel***. From the *Control Panel* window, double-click ***Network*** and highlight the *Configuration* tab to make it active. The following appears:

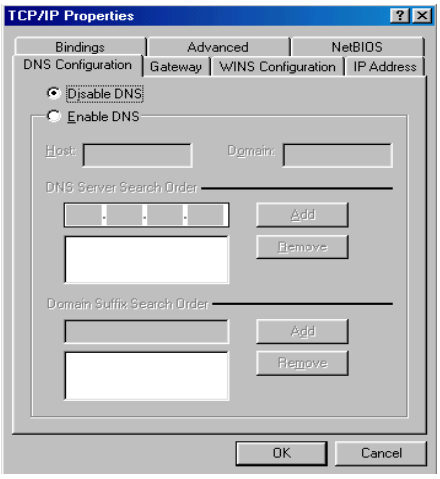


Step 2: Highlight *TCP/IP --> NE2000 Compatible*, or the name of any Network Interface Card (NIC) in your PC. Click ***Properties.*** The following appears:


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
Subnet Mask:
OK
Cancel

Step 3: Highlight the *IP Address* tab to make it active, then highlight the *Obtain an IP address automatically* radio button.

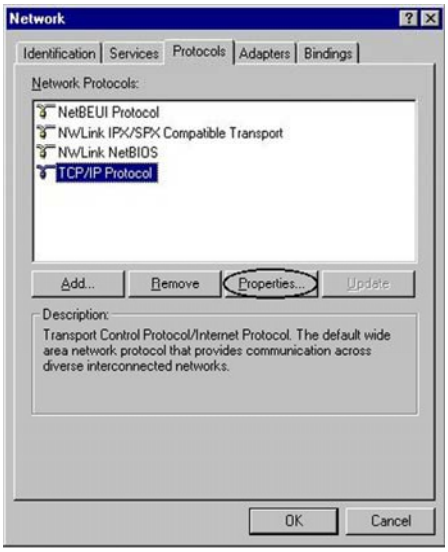
Step 4: Highlight the *DNS Configuration* tab to make it active. The following appears:



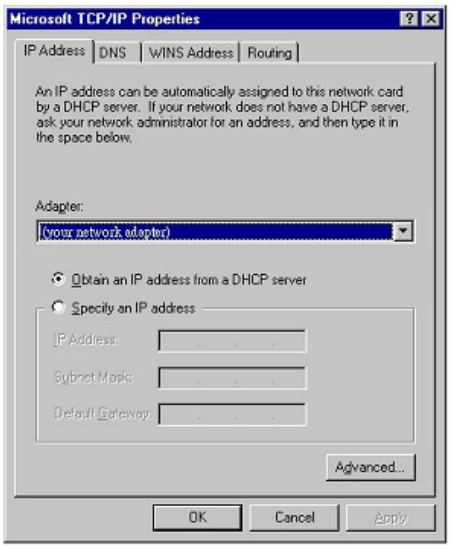
Step 5: Highlight the *Disable DNS* radio button, then click ***OK*** to complete the configuration.

4.4 Configuring Computers in Windows NT4.0

Step 1: Click ***Start/Control Panel***. From the *Control Panel* window, double-click ***Network*** and highlight the *Protocols* tab to make it active. The following appears:



Step 2: Highlight *TCP/IP Protocol*, then click ***Properties.*** The following appears:


Microsoft TCP/IP Properties
IP Address
DNS
WINS Address
Routing
An IP address can be automatically assigned to this network card by a DHCP server. If your network does not have a DHCP server, ask your network administrator for an address, and then type it in the space below.
Adapter:
[your network adapter]
Obtain an IP address from a DHCP server
Specify an IP address
IP Address:
Subnet Mask:
Default Gateway:
Advanced...
OK
Cancel
Apply

Step 3: Highlight the *Obtain an IP address from a DHCP Server* radio button. Click the ***OK*** button to complete the configuration.

4.5 Factory Default Settings

Before configuring your router, you need to know the following default settings.

4.5.1 Web Interface (Username and Password)

- Username: **root**
- Password: **0P3N** (the first character '0' denote a zero)

The default username and password are '*root*' and '*0P3N*' respectively. These fields are case-sensitive.

NOTE	***If you ever forget your login password, you may press the RESET button for up to 3 seconds to restore the factory default settings.***

4.5.2 LAN Device IP Settings

- IP Address: 192.168.10.1
- Subnet Mask: 255.255.255.0

4.5.3 DHCP server

- DHCP server is enabled.
- Start IP Address: 192.168.10.100 – End IP Address: 192.168.10.199
- IP pool counts: 100 to 199.

4.5.4 LAN and WAN Port Addresses

The parameters of LAN and WAN ports are pre-set in the factory. The default values are shown below.

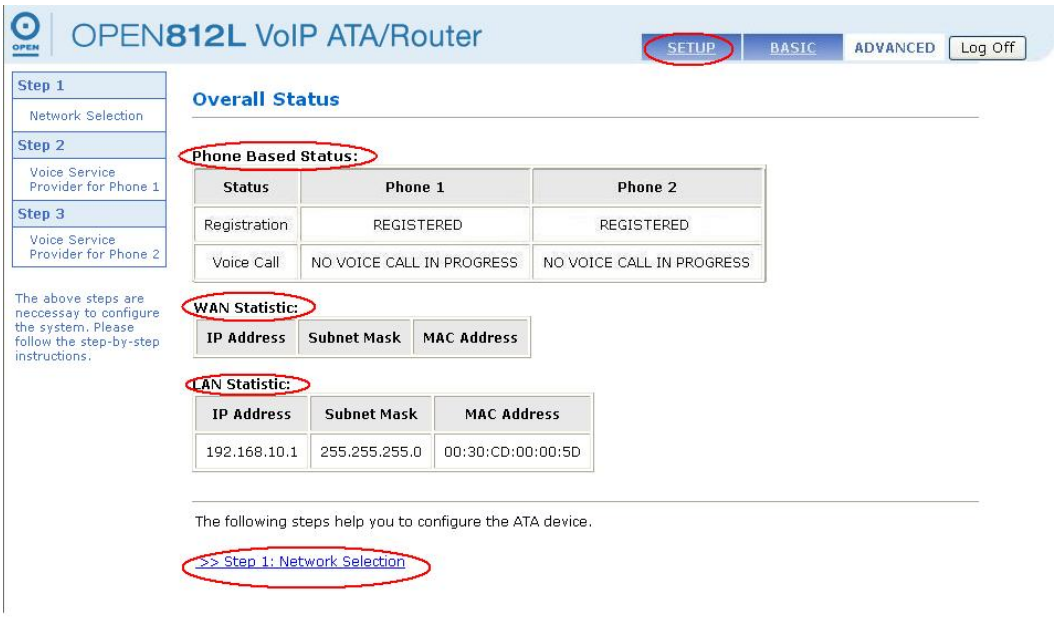
LAN Port		WAN Port
IP address	192.168.10.1	The WAN port is the DHCP Client.
Subnet Mask	255.255.255.0	
DHCP server function	Enabled	
IP addresses for distribution to PCs	100 IP addresses continuing from 192.168.10.100 through 192.168.10.199	

4.6 Configuring with your Web Browser

Step 1: Open a Web Browser and enter the following address in the *Address* bar: **http://192.168.10.1,** then click ***Go.*** The following appears:

Step 2: Enter the default username and password in the ***User name*** and ***Password*** fields, as provided under Section 4.5.1. Click the ***OK*** button.

Step 3: Upon logging in, the *Overall Status* page appears:



For more information about the *Overall Status* details, please refer to *Chapter 6: Basic Configuration* under the *Overall Status* section.

Congratulations! You have now successfully logged onto the OPEN812L VoIP ATA router!

5. Setup via Web Interface

Once you have physically connected the OPEN 812L VoIP ATA router successfully, the next step is to setup the OPEN 812L VoIP ATA router in order to establish a connection to the Internet and make phone calls over the Internet.

There are three steps in setting up the OPEN 812L VoIP ATA router, located at the left pane of the *Setup* page:

- Step 1: Network Selection
- Step 2: Voice Service Provider for Phone 1
- Step 3: Voice Service Provider for Phone 2

Please refer to the following sections of this manual for detailed instructions on how to setup the OPEN 812L VoIP ATA Router.

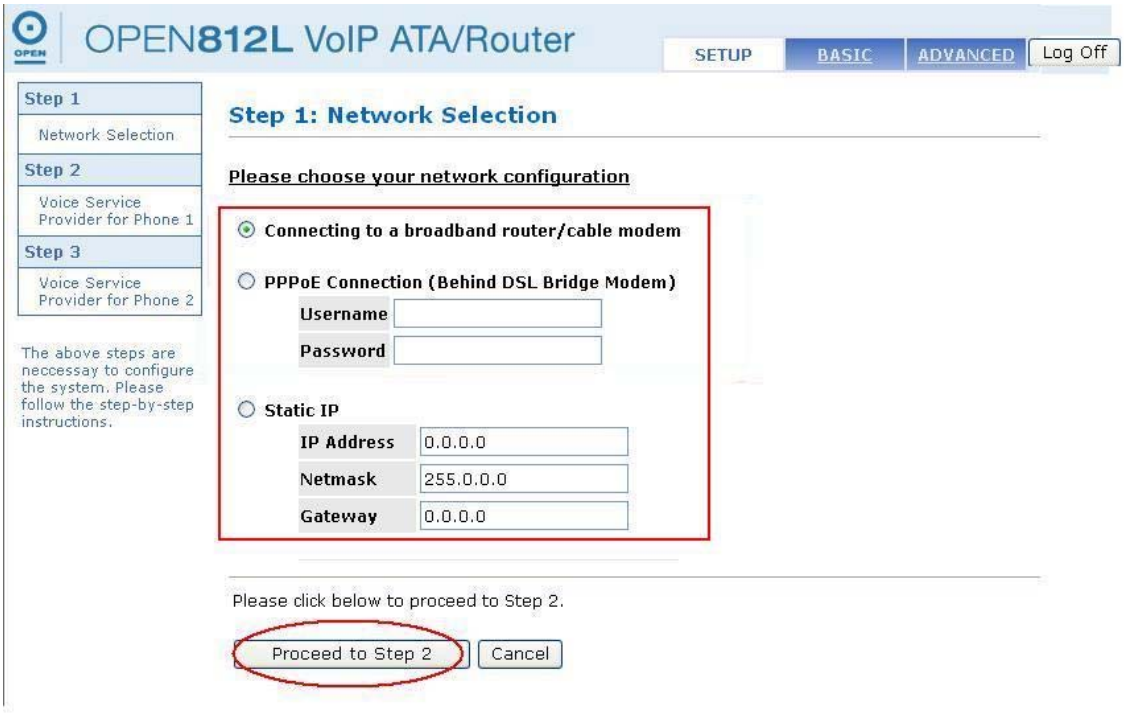
5.1 Network Selection

Step 1: There are 3 network configuration options you can choose from:

- If you are a cable user (i.e. connection is behind a router), select the ***Connecting to a broadband router/cable modem*** option.
- If you are using a bridge modem, select the ***PPPoE Connection (Behind DSL Bridge Modem)*** option.
- If your connection requires Static IP, select the ***Static IP*** option and enter the 3 fields: ***IP Address, Netmask*** and ***Gateway.***

Step 2: For *PPPoE Connection*, enter your ***Username*** and ***Password*** as provided by you VSP. Refer to the image provided below.

Step 3: Click the ***Proceed to Step 2*** button to configure *Step 2*. To remove the selections made, click the ***Cancel*** button and re-select your options.



5.2 Voice Service Provider Phone 1 & 2

This section allows you to configure the information from your Voice Service Provider (VSP). The information required includes the name of your VSP, the IP address of the service provider and new users for the account. Ensure that you have the correct information before proceeding.

Step 1: Select your ***Service Provider*** using the drop-down menu option provided. Select the ***DEFAULT*** option.

Enter all the fields on this screen, as they are mandatory fields. Default settings are displayed for all the fields. You may overwrite these fields with your VSP details.

Step 2: If you wish to add an additional VSP by clicking the ***Add New Provider*** button, enter all the mandatory fields as shown below. If you have not selected this option, proceed to *Step 4*.

Step 3: Click the ***Add New Provider*** to save the entries made or click the ***Cancel*** button to re-enter the details. This will take you back to the ***Voice Service Provider Phone 1*** screen.

NOTE	***You may add a maximum of 4 service providers under the*** *Add New Service Provider* ***option.***

Step 4: Enter all the rest of the details in the next three fields as provided by your Voice Service Provider. These include:

- *Registrar Address*;
- *Proxy Address*;
- *OutboundProxy Address*

Step 5: Next, select the ***User Profile*** option. If you have no users added yet, click the ***Add New User*** button as displayed in *Step 1*. You may add up to 4 users to the *User Profile*.

Step 6: Enter the next four fields: *New User Profile, Auth User ID, User Name, Password* and *Display Name*, as provided by your VSP.

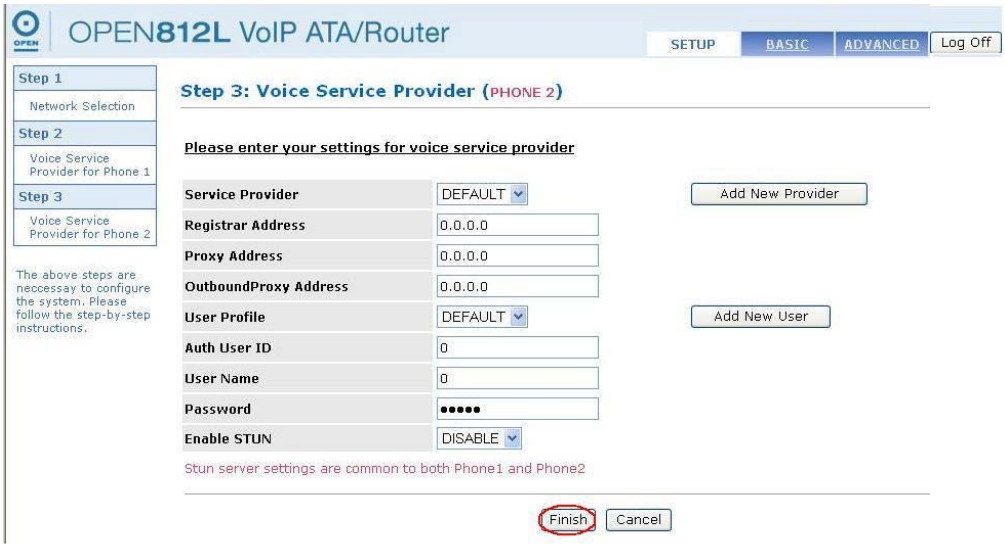
Step 7: Click the ***Add New User*** button to save the profile or the ***Cancel*** button to remove the entries made.

Step 8: You will be taken to *Step 2: Voice Service Phone 1* web page.

The ***Enable STUN*** field is defaulted to ***Disable***. Check with your VSP before enabling this function.

Step 9: Click the ***Proceed to Step 3*** button to go to the next step.

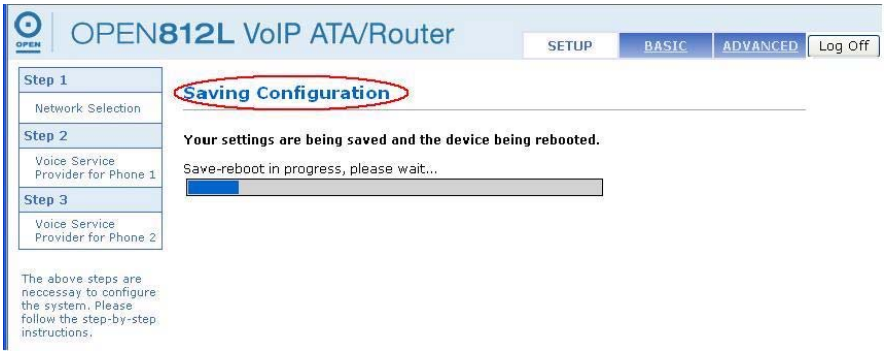
Step 10: The *Step 3: Voice Service Provider (Phone 2)* screen appears:



Step 11: Enter the mandatory fields for Phone 2, if applicable. If there are no more accounts to

be added, click the ***Finish*** button to save your configuration.

Step 12: At the ***Saving Configuration*** page, please wait for approximately 30 seconds for the process to be completed.



Step 13: Upon completion, the *Overall Status* page appears.

The following table lists the *Voice Service Provider Phone 1, Add New Provider* and *Add New User* sections and their definitions:

Field	Definition
Service Provider	This is the VSP you have registered with. This is a mandatory field.
Registrar Address	This is the SIP Registrar address of the VSP's server. This is a mandatory field that is defaulted to '0.0.0.0'.
Proxy Address	This is the SIP proxy server IP address of your Voice Service Provider. This is a mandatory field that is defaulted to '0.0.0.0'.
OutboundProxy Address	This is the Outbound Proxy IP address of your Voice Service Provider. This is a mandatory field that is defaulted to '0.0.0.0'.
User Profile	The user profile of each individual user for this account. A maximum of 4 users can be added to the user profile.
Auth User ID	The authorized user ID provided by your VSP. This field accepts alphanumeric characters. It is a mandatory field that must contain at least one character. It is defaulted to '0'.
User Name	The user name as registered on your VSP's server.
Password	The password as registered on your VSP's server.
Enable STUN	STUN stands for Simple Traversal of UDP through NATs. This is defaulted to *Disable* and is optional.
Display Name (Add New User)	This parameter holds the *Display Name* as it should appear on the Caller ID.

6. Basic Configuration

6.1 Status

This section provides visibility on the status of your router connections. You can view the *Overall Status* or specific status of the LAN, DHCP, PPP, TCP, and System Log. Each sub-section gives you a detailed view of the IP addresses, MAC addresses, number of packets sent and received, and so on.

6.1.1 Overall Status

The *Overall Status* screen displays details and status about the firmware, as well as the VoIP registration status. In addition, the WAN and LAN statistics are provided as a quick reference to the IP Address, MAC Address and Subnet Mask address of your router configurations.

Step 1: To access the *Overall Status* page, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***Overall Status*** link located on the left menu. The following appears:

NOTE	***The Overall Status screen is in read-only mode and meant for diagnostics purposes.***

The following table provides a brief description of each of the *Overall Status* sub-sections.

Label Name	Description
Firmware	Displays the current version of the OPEN 812L VoIP ATA firmware.
Phone Based Status	Displays the *Registration* and *Voice Call* statuses of Phone 1 and/or Phone 2. The Registration statuses are: *Registered* or *Failed to Register*. The Voice Call statuses are: *Voice Call in Progress* followed by the Codec or *No Voice Call in Progress*.
WAN Connection Type	Displays the type of connection that is currently used. A status of *Connected* is displayed when it is connected to the VSP.
WAN Statistic	Displays the WAN interface IP address assigned to your router.
LAN Statistic	Displays the number of computers connected to the router and the LAN interface IP address assigned to the computers.

6.1.2 LAN Status

The *LAN Status* is used to view information about the IP Address, Subnet Mask and MAC address for the LAN interface.

Step 1: To access the *LAN Status*, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***LAN Status*** link located on the left menu. The following page appears:

NOTE	***The LAN Status screen is in read-only mode and meant for diagnostics purposes.***

The following table provides a brief description of the items on the *LAN Status* screen.

Label Name	Description
Number of Ethernet Devices Connected to the DHCP Server	Displays the DHCP client table with the assigned IP addresses and MAC addresses.

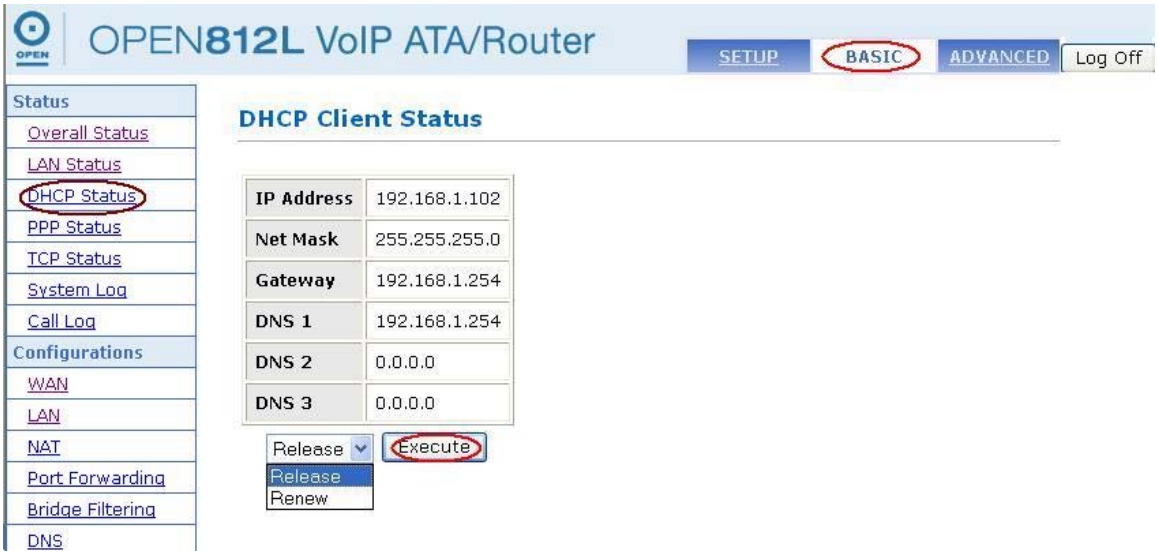
6.1.3 DHCP Client Status

The *DHCP Client Status* is used to view information about the IP Address, Net Mask, Gateway, DNS 1, DNS 2 and DNS 3 for the WAN interface.

Follow the steps below to access *DHCP Status*.

Step 1: To access the *DHCP Status*, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***DHCP Status*** link located on the left menu. The following page appears:



Step 3: To release or renew the acquired dynamic IP, select ***Release*** or ***Renew*** option in the list box.

Step 4: Click the ***Execute*** button to ***Release*** or ***Renew*** the WAN connection.

The following table provides a brief description of the items on the *DHCP Status* screen.

Label Name	Description
IP Address	Displays the IP address of the DHCP client.
Net Mask	Displays the assigned network and broadcast addresses.
Gateway	Displays the IP address of the gateway server
DNS 1, DNS 2, DNS 3	Displays the DNS IP addresses.

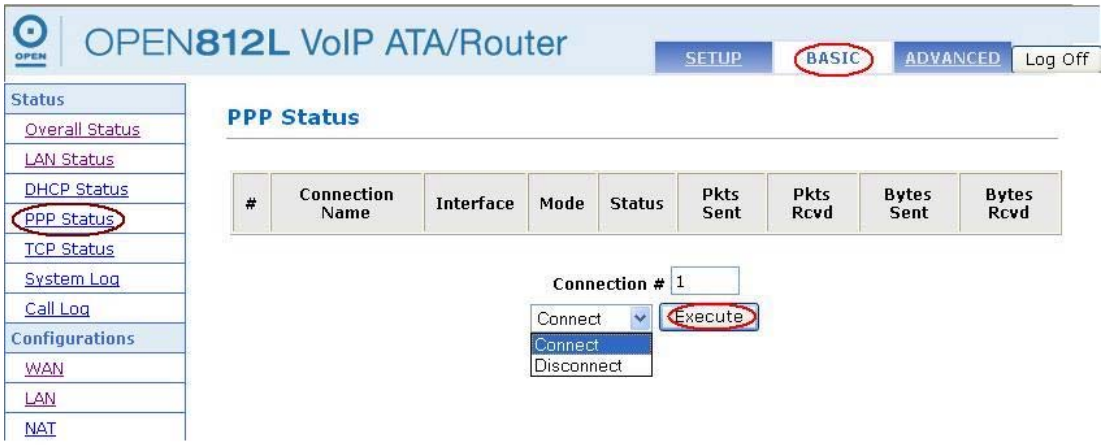
6.1.4 PPP Status

The *PPP Status* is used to view the status of each PPP session for each PPP interface. It contains information that is dynamic and will refresh every 8 seconds.

Follow the steps below to access *PPP Status*.

Step 1: To access the *PPP Status*, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***PPP Status*** link located on the left menu. The following page appears:



Step 3: Enter the ***Connection#*** field ('1' was entered in the example shown). The *Connection#* specifies the PPP session that is to be connected/disconnected.

Step 4: From the list box, select the ***Connect*** or ***Disconnect*** options.

Step 5: Click the ***Execute*** button to either connect or disconnect the PPP connection. The connection status dialogue will be displayed.

Read the following descriptions of the dialogue available:

PPP X Connecting - This is displayed while the PPP session is attempting to connect to the VSP.

PPP X Connect Error - This is displayed when a connection cannot be made due to an error.

PPP X Is Currently Not Connected - This is displayed when a disconnect attempt is made on a session that is not currently connected.

PPP X Does Not Exist! - This is displayed when a Connect or Disconnect attempt is made on a session number that does not exist.

NOTE	***Cable modem users are not able to connect using this option.***

6.1.5 TCP Status

The *TCP Status* is used to view the status of all the relevant TCP packets and data information. The information is dynamic and the figures change as transmission takes place. There are 3 different types of information in the TCP Status section. These are:

- *General*
- *Discarded Packets*
- *Connections*

Follow the steps below to access *TCP Status*.

Step 1: To access the *TCP Status*, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***TCP Status*** link located on the left menu. The following page appears:

Step 3: To reset the counters to start from '0', click the ***Reset Counters*** button to clear all the attributes.

The following table provides a brief description of the items on the TCP Status screen.

Label Name	Description
Reset Counters	This function allows you to reset the TCP Status counter, to start from '0' again.
General	Holds general information regarding transmissions and receipts of packets: Total Packets, Data Packets, Data Bytes, Out of Order Packets and Out of Order Bytes.
Discarded Packets	Displays the number of discarded packets with Bad Checksum, Bad Offset Header and Too Short.
Connections	Displays the number of connections that are Initiated, Accepted, Established and Closed.

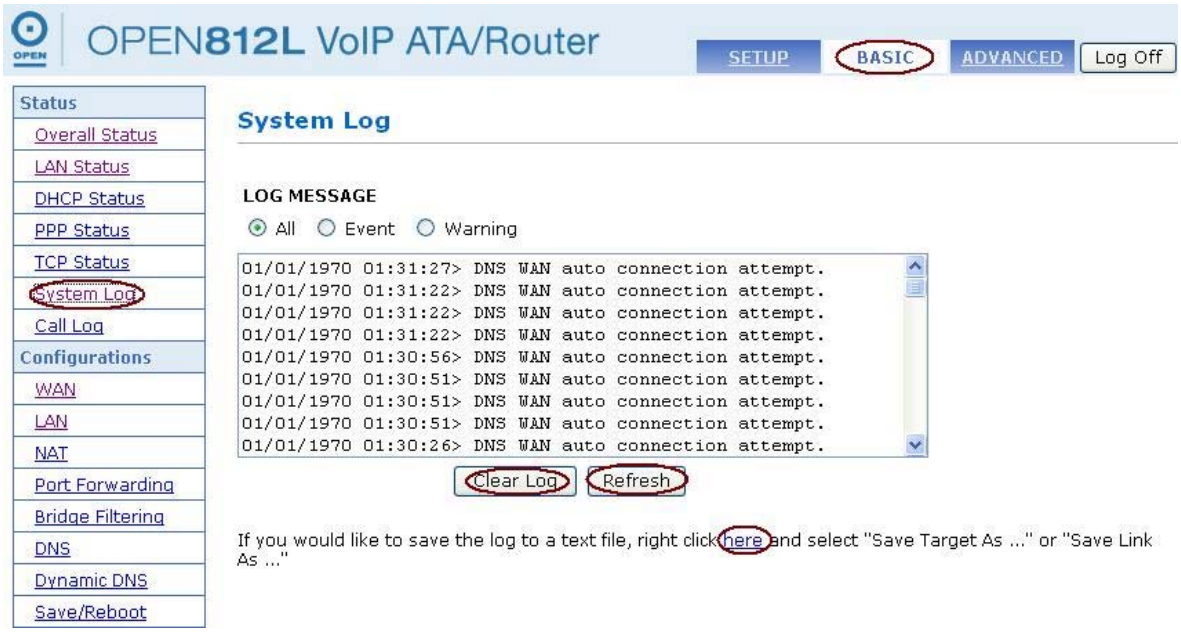
6.1.6 System Log

System Log is used to view the status of all the events that were triggered by the system. It contains information that is dynamic and refreshes every 5 seconds.

Follow the steps to access *System Log*.

Step 1: To access *System Log*, click the ***Basic*** link located at the top-right hand side of the page.

Step 2: Click the ***System Log*** link located on the left menu. The following page appears:



The following table provides a brief description of the functions on the *System Log* screen.

Label Name	Description
Log Message	Displays log messages or events that have been triggered by the system. Select from any one of the 3 separate views: All, Event or Warning to view the logged messages. The logged messages appear in this order: ❑ Month/Day/Year, ❑ Time in Hrs:Mins:Seconds ❑ Event description
Clear log	This function allows you to clear the current recorded contents in the *System Log* to refresh the log messages.
Refresh	Allows you to refresh the log messages.
Click Here Link	Allows you to save the current contents of the logged messages into a text file onto your local drive. Click on the link and select “Save Target As” to save it to a text file.

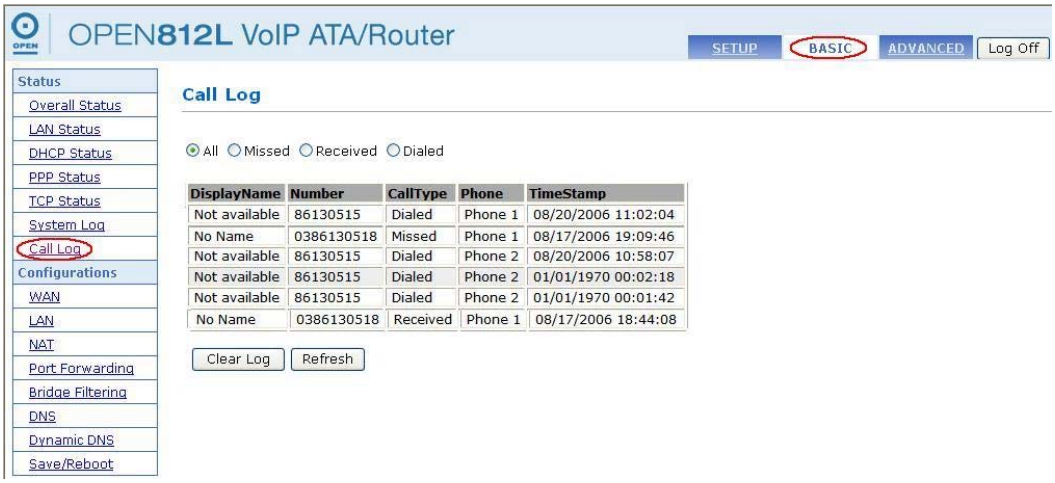
6.1.7 Call Log

Call Log provides a view of the calls that have been missed, received or dialled. You can select the *Call Type* from the radio buttons provided to view the *Display Name, Number, Call Type, Phone (1 or 2) and Time Stamp* of the calls that have been logged.

Follow the steps to access *Call Log*.

Step 1: To access *Call Log*, click the ***Basic*** link located at the top-right hand side of the page.

Step 2: Click the ***Call Log*** link located on the left menu. The following page appears:



Step 3: Click the ***Clear Log*** button to clear the logged calls.

Step 4: To refresh the logged calls, click the ***Refresh*** button.

6.2 Configurations

This section allows you to configure WAN, LAN, NAT, Port Forwarding, Bridge Filtering, DNS, Dynamic DNS, and to save and reboot your PC after the configurations have been made.

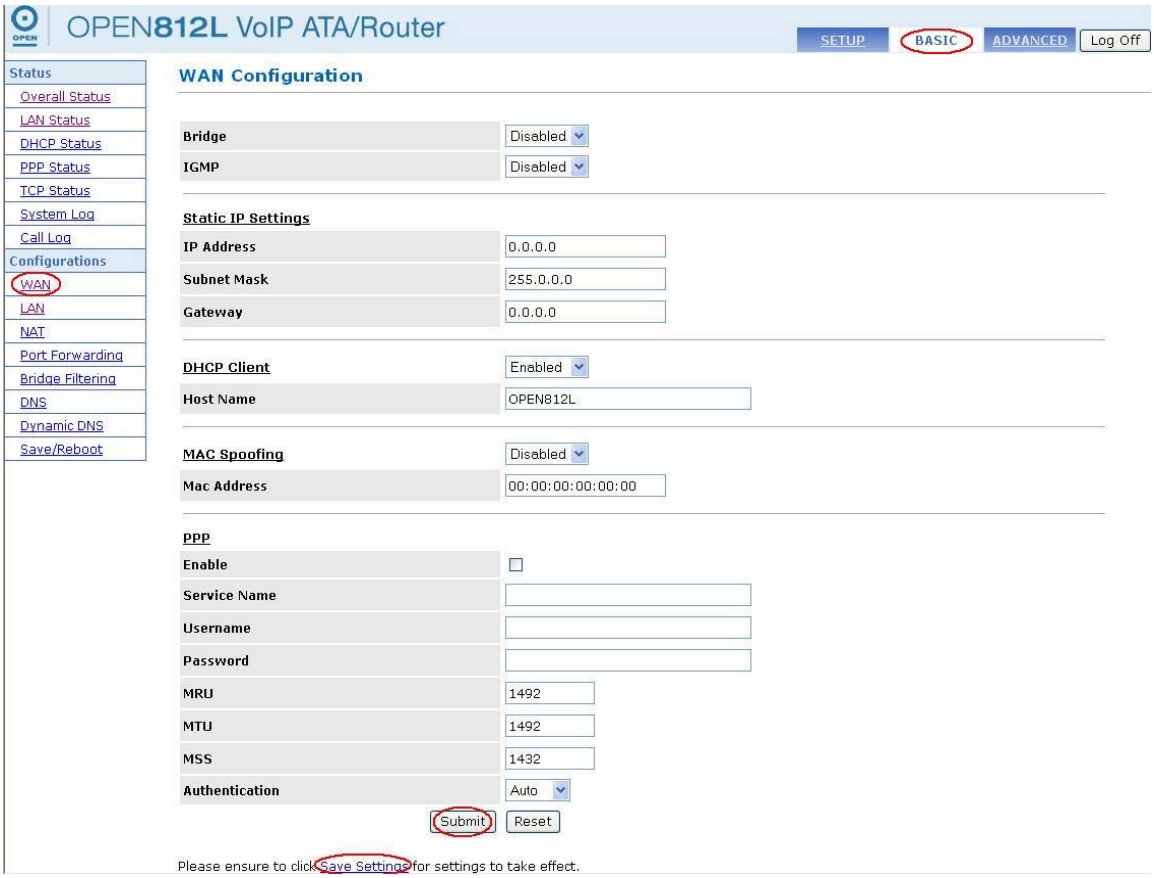
6.2.1 WAN Configuration

WAN refers to your Wide Area Network connection, i.e. your router's connection to your VSP and the Internet.

You may setup the configuration for the WAN port using the steps below.

Step 1: To access *WAN*, click the ***Basic*** link located at the top-right hand side of the page.

Step 2: Click the ***WAN*** link located on the left menu. The following page appears:



Step 3: To set up the WAN configuration, refer to the table below to populate each of the fields.

The following table describes the *WAN Configuration* settings:

Field Name	Description
Bridge	Select ENABLE to connect the LAN to the WAN (i.e. bridge the two connections). This is available in Bridge Mode only. The default setting is DISABLED.
IGMP	This refers to the IGMP (Internet Group Management Protocol) relay/proxy specification and environment. The default is DISABLEDI. IGMP is available in all modes and all encapsulations. The Support for IGMP proxy/relay function for ADSL Bridge/Router is based on the following requirement and cases: On the CO side, there must be at least one IGMP querier (router) present. IGMP querier will send the IGMP query packet. The ADSL Bridge/Router is responsible to relay these IGMP queries to Ethernet. End-user multicast application device sends IGMP report while receiving IGMP query or being activated by the user. The ADSL Bridge/Router should be responsible to proxy (that is, change source IP to ADSL Bridge/Router's WAN IP) the IGMP report to ADSL WAN side, including all PVCs (Permanent Virtual Circuits). The same case is for IGMP leave packet. It is not necessary to relay multicast routing between two ADSL PVCs or two interfaces in LAN side. Special purpose multicast packets (such as RIP 2 packets) should run without interference.
Static IP Settings	These settings are for users who have a Static IP Address with their VSP on the WAN side. **IP Address** refers to the Static IP Address given by your VSP. The range for the IP Addresses is x.x.x.y, where 0≤ x ≤ 255 and 1 ≤ y ≤ 254 and the default is 0.0.0.0. **Subnet Mask** refers to the subnet mask given by your VSP. The range for Subnet Mask is x.x.x.x , where 0≤ x ≤ 255 and the default is 255.0.0.0. **Gateway** refers to the gateway given by your VSP. The range for Gateway is x.x.x.y, where 0≤ x ≤ 255 and 1 ≤ y ≤ 254 and the default is 0.0.0.0.
DHCP Client	This function enables or disables the ADSL Bridge/Router WAN as a DHCP client, where the VSP would be the DHCP Server. The default is set to DISABLED. DHCP clients are generally used in the following encapsulations: 1483 Bridged IP LLC 1493 Routed IP LLC 1483 Bridged IP VC-MUX

Field Name	Description
	1483 Routed IP VC-MUX **Classical IP over ATM** – this option is for non-static (dynamic) IP addresses. **Host Name**: When the DHCP Client is enabled, copy the VSP-recognized Host name here. The Host Name can be up to 19 characters.
MAC Spoofing	Enable MAC Spoofing to make a different MAC Address appear on the WAN side. The default is set to DISABLED. This is also used to solve the scenario where the VSP only recognizes one MAC Address. **MAC Address**: When MAC Spoofing is enabled, copy the VSP-recognized MAC address here. The format for MAC address is six pairs of hexa-decimal numbers (0-9, A-F), separated by colons. The default is set to 00:00:00:00:00:00.
PPP	*PPP Enable* is defaulted to disabled. Check the box to enable this function. **User Name**: Enter the PPP user name as provided by the VSP. The User Name can be up to 127 characters. Password: Enter the PPP password as provided by the VSP. The Password can be up to 127 characters. **MRU**: The MRU (Maximum Receive Unit) field indicates the maximum size IP packet that the peer of PPP connection (this device) can receive. During the PPP negotiation, the peer of the PPP connection will indicate its MRU and will accept any value up to that size. The actual MTU of the PPP connection will be set to the smaller of the two (MTU and the peer's MRU). In the normal negotiation, the peer will accept this MRU and will not send packet with information field larger than this value. The range for the MRU field is 0-32767and the default value is 1492. **MTU**: Maximum Transmission Unit (MTU) is the largest size packet that can be sent by the modem. If the network stack of any packet is larger than the MTU value, then the packet will be fragmented before the transmission. During the PPP negotiation, the peer of the PPP connection will indicate its MRU and will accept any value up to that size. The actual MTU of the PPP connection will be set to the smaller of the two (MTU and the peer's MRU). The range for the MTU field is 0-32767 and the default value is 1492. **MSS**: The Maximum Segment Size is the largest size of data that TCP will send in a single, un-fragmented IP packet. The LAN client and the WAN host will indicate their MSS during the TCP connection handshake. The range for the MSS field is 0-32767 and the default value is 1432.

Field Name	Description
	Authentication: The different types of available authentications are: **Auto**: When auto is selected, PAP mode will run by default. However, if PAP fails, then CHAP will run as the secondary protocol. This is the default setting. **PAP**: Password Authentication Procedure. Authentication is done through username and password. **CHAP**: Challenge-Handshake Authentication Protocol. Typically more secure than PAP, CHAP uses username and password in combination with a randomly generated challenge
Submit	Click the *Submit* button to save the changes made.
Save Settings	Click the *Save Settings* this link to select from 2 options: *Save Settings/Reboot* or *Reboot Only*. Refer to *Section 6.2.8* for more information.

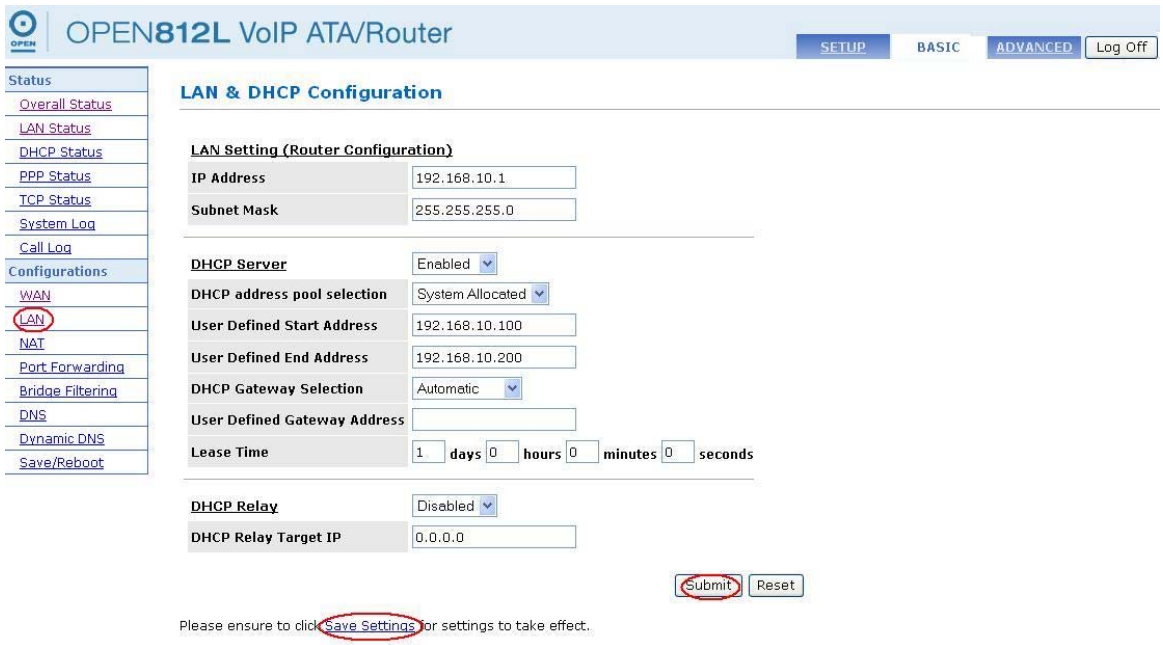
6.2.2 LAN & DHCP Configuration

The *LAN and DHCP Configuration* allows you to set the configuration for your LAN settings and DHCP server. You may enable or disable the DHCP server and the router's DHCP relay functions. The DHCP protocol allows your router to dynamically assign IP addresses to computers on your network if they are configured to obtain IP addresses automatically.

Follow the steps below to access *LAN*.

Step 1: To access *LAN*, click the ***Basic*** link located at the top-right hand side of the page.

Step 2: Click the LAN link located on the left menu. The following page appears:



Step 3: To populate each of the LAN & DHCP configuration fields, refer to the table below and the descriptions provided.

The following table describes the *LAN & DHCP Configuration* settings:

Field Name	Description
LAN Settings (Router Configuration)	Assign a local IP Address and Subnet Mask to your router. The factory default value for IP is 192.168.10.1 with a Subnet Mask of 255.255.255.0. Ensure that when you change the LAN Settings of the router, you need to reset/renew the local computer IP addresses.
DHCP Server	When enabled, the router will provide IP address to the computers connected to the router.

Field Name	Description
	DHCP address pool selection: When User Defined option is selected, the router will assign IP address automatically from the DHCP address pool. User can set up to 253 IP addresses in the address pool. **User Defined Start Address**: This is the starting IP address of the DHCP pool for User Defined DHCP Address Pool Selection. Range for User Defined Start Address is x.x.x.x, where 0 ≤ x≤ 255. The default value is 192.168.10.100. **User Defined End Address**: This is the last IP address in the DHCP pool for User Defined DHCP Address Pool Selection. The range for User Defined End Address is x.x.x.x, where 0 ≤ x≤ 255. The default value is 192.168.10.199. **DHCP Gateway Selection**: The default setting for the DHCP Gateway Selection is AUTOMATIC. You can select User Defined and specify User Defined Gateway Address. The DHCP server will issue the User Defined Gateway Address to the LAN DHCP clients. **User Defined Gateway Address**: The purpose for this function is to have two gateway addresses, as the LAN IP Address at the top of the LAN Configuration page is also a gateway address. **Lease time**: The Lease time is the amount of time a network user will be allowed to connect with the DHCP server. If all fields are 0, the allocated IP addresses will be permanently effective. The range of Lease Time fields is: Days 0-36500, Hours 0-23, Minutes 0-59, Seconds 0- 59. The default value is: *1 days 0 hours 0 minutes 0 seconds*.
DHCP Relay	If it is ENABLED, the DHCP requests from local PCs will be forwarded to the DHCP server running on the WAN side. To have this function working properly, please disable the NAT to run on router mode only, disable the DHCP server on the LAN port, and make sure the routing table has the correct routing entry. **DHCP Relay Target IP**: If DHCP Relay is enabled, DHCP requests are relayed to DHCP Target IP on the WAN side. Displays the default DHCP Relay Target IP: 0.0.0.0.
Submit	Click the *Submit* button to submit the changes made.
Save Settings	Click the *Save Settings* this link to select from 2 options: *Save Settings/Reboot* or *Reboot Only*. Refer to *Section 6.2.8* for more information.

6.2.3 NAT Configuration

Network Address Translation (NAT) is a method of connecting multiple computers to the Internet or any other IP network using one IP address. It operates on the router, usually connecting two networks together, and translates the private addresses in the internal network into legal addresses before packets are forwarded onto another network. It can be configured in such a way that only one address for the entire network to the outside world is exposed so that the entire internal network can be hidden, thus providing security.

NAT serves three main purposes:

- Provides a type of firewall by hiding internal IP addresses
- Enables a company to use more internal IP addresses. Since they are used internally only, there is no possibility of conflict with IP addresses used by other companies and organizations.
- Allows a company to combine multiple ISDN connections into a single Internet connection.

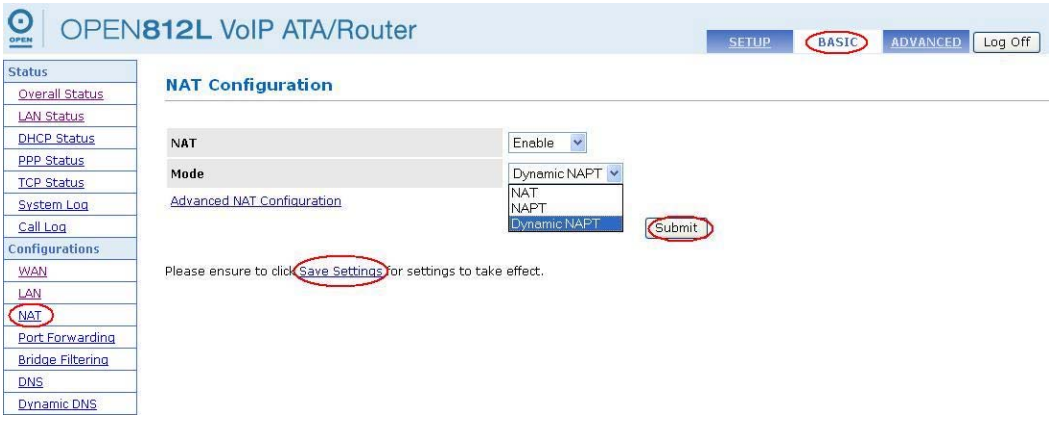
The NAT module provides Dynamic Network Address (DNS) and Port Translation (Dynamic NAPT) capability between the LAN and multiple WAN connections. The LAN traffic is routed to appropriate WAN connections based on the destination IP address and the Route Table. This eliminates the need for the static NAT session configuration between multiple LAN clients and multiple WAN connections.

When Dynamic NAT is chosen, there is no need to configure the NAT session and NAT Session Name Configuration.

Follow the steps below to access and set up your NAT configuration.

Step 1: To access *NAT*, click the ***Basic*** link located at the top-right hand side of the page.

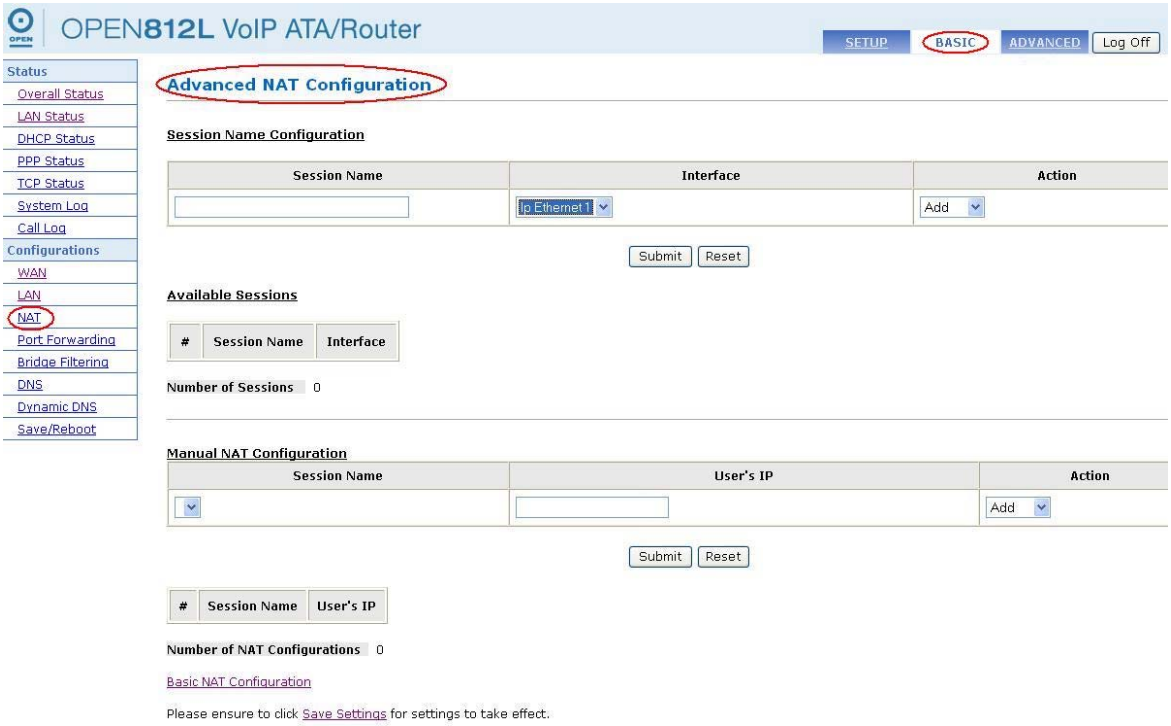
Step 2: Click the ***NAT*** link located on the left menu. The following page appears:



Step 3: To enable *NAT*, select ***Enable*** from the list box.

Step 4: To set up the *NAT Mode*, select from one of the available options: ***NAT, NAPT, Dynamic NAPT***. You may find a full description of each option in the table below.

Step 5: Click the ***Advanced NAT Configuration*** link to open the *Advanced NAT Configuration* screen. This function allows you to set the configuration for session name, available session and manual NAT configuration.



The following table describes the settings on the *NAT configuration* screen:

Field Name	Description
NAT	User this field to Enable/Disable NAT. The default is set to ENABLE.
Mode	The options for the NAT list box menu is: **NAT**: Static peer-to-peer mode (1x1). Establishes a mapping between an inside local address and a pool of global addresses. **NAPT:** Static multiple mapping mode (1xN). This is a method by which many network addresses and their TCP/UDP ports are translated into a single network address and its TCP/UDP ports. **Dynamic NAPT**: Dynamic multiple mapping mode (NxN). This is the default setting. A home office with the following characteristics will typically use Dynamic NAPT configuration: - a single global IP address (whether static or dynamic); - multiple host workstations (PCs, laptops) connected to the home LAN

The following table describes the settings on the *Advanced NAT* configuration screen:

Field Name	Description
Session Name Configuration	Session Name: This field allows you to enter a Session Name to help distinguish different NAT Sessions for different interfaces among different PPP sessions and PVCs. The Session Name can be up to 31 characters, and there can be up to 16 different NAT session names. Interface: This field allows you to choose specific WAN Interfaces (PVC or PPP Session) for NAT Session. The options for this field are PVC0 ... PVC7 and any PPP session that was created by the user. Action: Select Add or Delete and then press the Submit button to add or delete any NAT session name setting to/from the following table.
Available Sessions	This table will display all the available Session Names with their corresponding Interface and the number of sessions.
Manual NAT Configuration	Session Name: This field allows you to select the session from the configured NAT Session Name Configuration. User's IP: This field allows you to assign the IP address to map the corresponding NAT/NAPT sessions. Action: Select Add or Delete and then press the Submit button to add or delete any NAT session name setting to/from the following table.
NAT Session Name Status	This table is displayed at the bottom of this page to show all the NAT Session Names with their corresponding WAN Interfaces.
Number of NAT Configurations	This field displays the total number of NAT Sessions entered. NAT allows only one entry (User IP) per session, while NAPT allows many entries (User IPs) per session.

6.2.4 Port Forwarding

In TCP/IP and UDP networks, a port is a 16-bit number used to identify an application program (usually a server) to which incoming connections should be delivered. Some ports have numbers that are pre-assigned to them by the IANA (the Internet Assigned Numbers Authority), and these are referred to as "well-known ports". Servers follow the well-known port assignments so clients can locate them.

If you wish to run a server on your network that can be accessed from the WAN (i.e. from other machines on the Internet outside your local network), or any application that can accept incoming connections (e.g. Peer-to-peer/P2P software such as instant messaging applications and P2P file-sharing applications) and are using NAT (Network Address Translation), then you will usually need to configure your router to forward these incoming connection attempts using specific ports to the computer on the network running the application. You will also need to use port forwarding if you want to host an online game server.

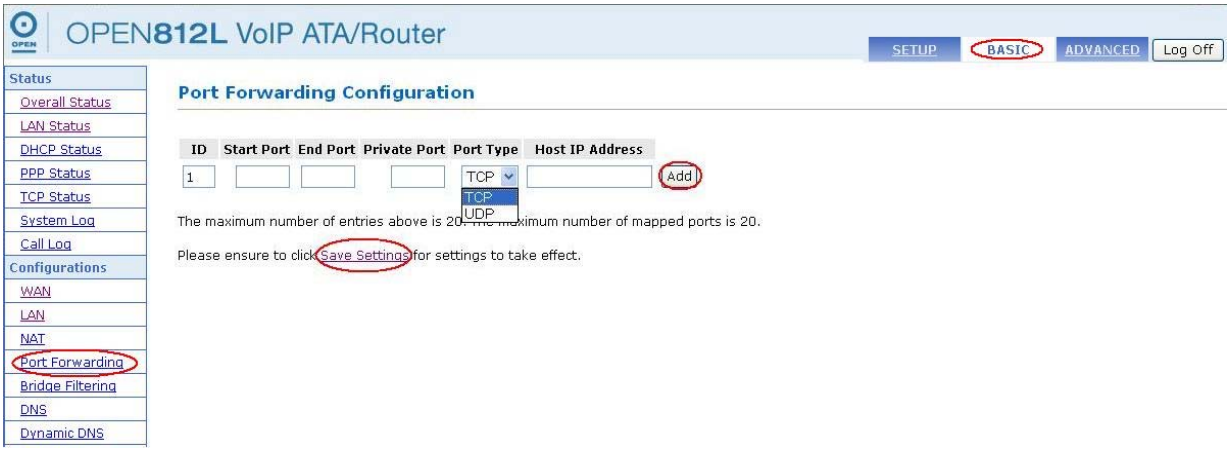
The reason for this is that when using NAT, your publicly accessible IP address will be used by and point to your router, which then needs to deliver all traffic to the private IP addresses used by your computers. Please see the WAN configuration section of this manual for more information on NAT.

The device can be configured as a Virtual Server so that remote users accessing services such as Web or FTP services via the public (WAN) IP address can be automatically redirected to local servers in the LAN network. Depending on the requested service (TCP/UDP port number), the device redirects the external service request to the appropriate server within the LAN. All TCP/UDP ports are protected from intrusion.

Follow the steps below to access and set up *Port Forwarding* on your router.

Step 1: To access *Port Forwarding*, click the ***Basic*** link located at the top-right hand side of the page.

Step 2: Click the ***Port Forwarding*** link located on the left menu. The following page appears:



Step 3: The ID field is an automatically generated sequential number that begins with '1'. To set up *Port Forwarding Configuration*, enter the ***Start Port*** number.

Step 4: Enter the ***End Port*** and the ***Private Port*** numbers.

Step 5: Select either ***TCP*** or ***UDP*** port type from the list box.

Step 6: Enter the ***Host IP Address***.

Step 7: Click the ***Add*** button. The following screen displays the configuration just added.

Step 8: Use the ***Delete This Setting*** button if the configuration is incorrect or no longer required.

Step 9: Click the ***Save Settings*** link for the configuration settings to take effect.

The following table describes the settings for *Port Forwarding Configuration* and their definitions:

Field Name	Description
ID	This is the ID number corresponding to the Virtual Server configuration.
Public Port – Start	This field allows you to enter the port number of the Public Network (WAN or external network). If you are entering a range of ports, this is the first port.
Public Port – End	This field represents the last port number in a port range. If you only want one port number (no port range), simply enter the same number here as in the Public Port – Start field. The maximum number of the mapped Port is 20.
Private Port	This field allows you to enter the port number of the Private Network (LAN or internal network). In most cases, the private port number is same as public port number. This port number cannot be seen from the WAN side.
Host IP Address	This field allows you to enter the private network IP address for the particular server.

NOTE	***You may enter a maximum number of 20 Port Forwarding configurations and a maximum number of 20 mapped ports.***

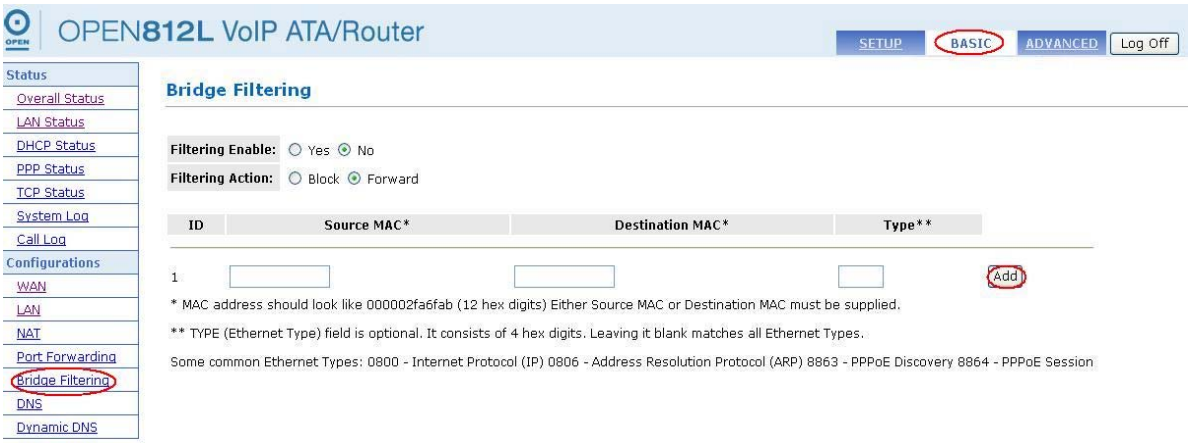
NOTE	***Using port forwarding does have security implications, as outside users will be able to connect to computers on your network. For this reason you are advised to use specific Virtual Server entries just for the ports your application requires, instead of using DMZ. As a result all connections from the WAN will attempt to access the public IP of the DMZ computer specified.***

6.2.5 Bridge Filtering

Bridge Filtering allows packets to be forwarded or blocked, depending on the MAC address. This section will guide you through configuring MAC Filtering.

Step 1: To access Bridge Filtering, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***Bridge Filtering*** link located on the left menu. The following page appears:



Step 3: To setup *Bridge Filtering*, select ***Yes*** or ***No*** to enable Filtering.

Step 4: Select **Block** or **Forward** for the Filtering Action.

Step 5: Enter the Source MAC field. This field must consist of 12 hexadecimal characters.

Step 6: Enter the ***Destination MAC*** field. This field must consist of 12 hexadecimal characters.

The following table describes the settings for Bridge Filtering and their definitions:

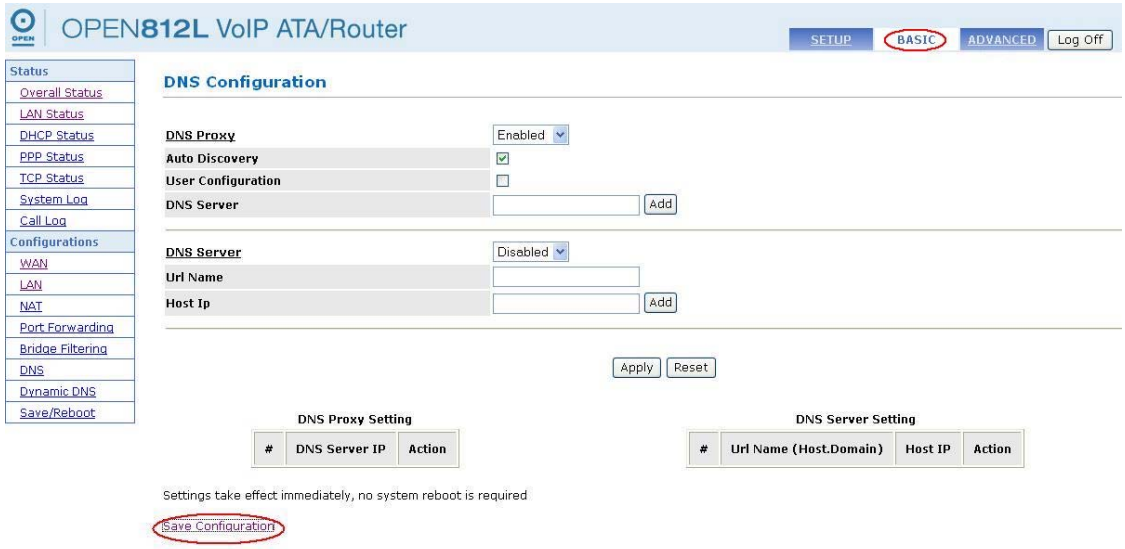
Field Name	Description
Filtering Enable	Select Yes or No
Filtering Action	**Block:** When block is selected, everything from the Source MAC with Destination MAC will be blocked. **Forward:** When forward is selected, everything from the Source MAC will be forwarded to the Destination MAC.
Source MAC	This is the Source MAC to block or from which to forward. The Source MAC must consist of 12 hexadecimal characters.
Destination MAC	This is the Destination MAC to block or to forward to. The Destination MAC must consist of 12 hexadecimal characters.
Type	Enter the hexadecimal number for the Ethernet type field in Ethernet II packets. For example, 0800 is for IP protocol. The Type must consist of 4 hexadecimal characters.

6.2.6 DNS Configuration

The DNS Configuration section allows you to set up the configuration for the DNS proxy. For DHCP requests from local PCs, the DHCP server will set the LAN port IP as the default DNS Server. Thus, all DNS query messages will come into the LAN port first. The DNS proxy on the ADSL Bridge/Router records the available DNS servers and forwards DNS query messages to one of the DNS servers.

Step 1: To access DNS Configuration, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***DNS Configuration*** link located on the left menu. The following page appears:



Step 3: To setup *DNS Configuration*, the ***Enable*** option is defaulted to enable the *DNS Proxy*.

Step 4: The ***Auto Discovery*** is checked by default. When enabled, this option stores the *DNS server IP address* obtained from the DHCP client or PPP.

Step 5: Check the ***User Configuration*** option to enable this function. When enabled, the DNS Proxy will use the user-configured DNS server.

Step 6: Enter the ***DNS Server*** field with the URL name and IP.

Step 7: Select the ***Enable*** option from the list box to enable the DNS Server. It is defaulted to ***Disabled***.

Step 8: Enter the ***URL Name*** of the DNS Server.

Step 9: Enter the Host ID or IP Address of the DNS Server in the ***Host IP*** field.

Step 10: Click the ***Apply*** button to apply the changes made.

Step 11: Click the ***Save the Configuration*** link so that the settings can take effect.

The following table describes the settings for the DNS Configuration fields and their definitions:

Field Name	Description
DNS Proxy Enable/Disable	When the DNS Proxy is DISABLED, the LAN port does not process the DNS query message. For DHCP requests from local PCs, the DHCP server will set the user-configured DNS server as the DNS server. Then all DNS query messages will be directly sent to the DNS servers. DNS Proxy is ENABLED by default. **Auto Discovery**: When enabled, the DNS proxy will store the DNS server IP addresses obtained from DHCP client or PPP into the table. This field is defaulted to DISABLED. All DNS query messages will be sent to the dynamically obtained DNS server. Select this option when the DNS Server address is unknown but provided (automatically) by the VSP. **User Configuration**: When enabled, the DNS proxy will use the user-configured DNS server. All DNS query messages will be sent to the DNS server. Enter the DNS IP in the DNS Server field. Select this option when the DNS Server address assigned by the VSP is known. User Configured is disabled by default.
DNS Server	This is the user defined DNS server URL name and IP. Default is DISABLED. **URL Name (Add/Delete)**: This is the URL name for the DNS server. This can be up to 255 characters. **Host IP (Add Only)**: This is the IP address of the DNS Server.
DNS Proxy Setting	This is a table of all DNS server IP addresses.
DNS Server Setting	This is a table of all DNS sever URL names.
Save Configuration	Click the *Save Configuration* link to save the settings.

6.2.7 Dynamic DNS

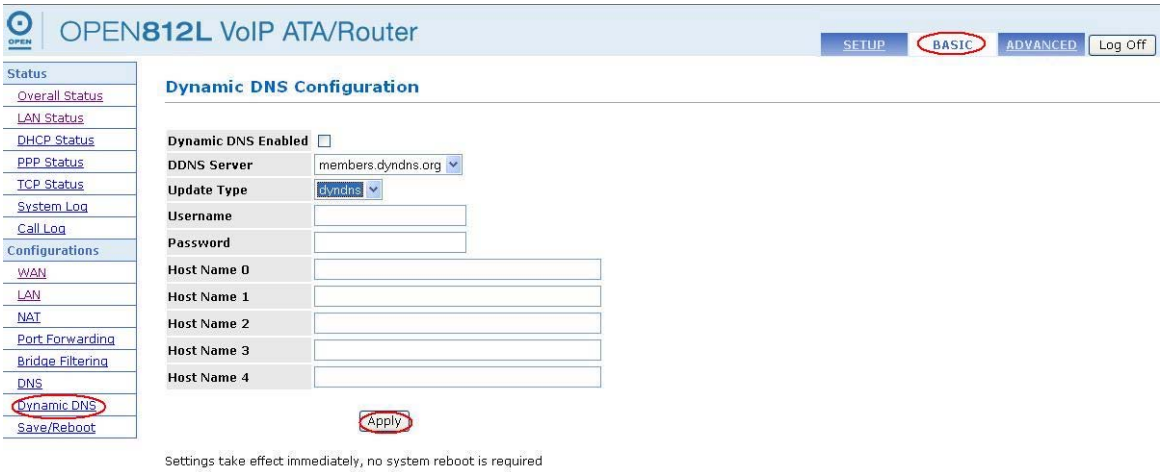
The *Dynamic DNS Configuration* allows users to register with a Dynamic DNS Provider. The Dynamic DNS is linked to the WAN IP of the router even after the VSP has updated the WAN IP to another IP address.

This function is useful in web hosting and FTP services.

Follow the steps below to access and configure *Dynamic DNS*.

Step 1: To access *Dynamic DNS Configuration*, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***Dynamic DNS*** link located on the left menu. The following page appears:



Step 3: To setup *Dynamic DNS Configuration*, check to ***Enable*** this option. It is defaulted to ***Disabled***.

Step 4: Select the ***DDNS Server*** from the list box.

Step 5: Select the Update Type from the list box options. The options include: dyndns (Dynamic DNS), custom or static.

Step 6: Enter the ***Username*** and ***Password***.

Step 7: Enter the ***Host Name*** field. Five boxes are provided from 0 to 4.

Step 8: Click the ***Apply*** button to save your settings.

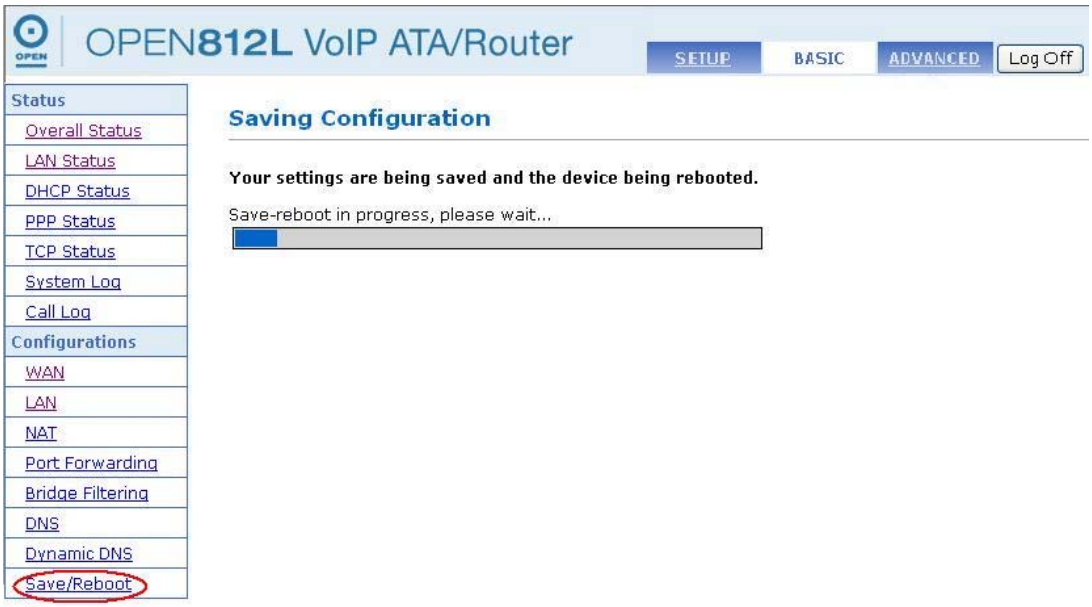
6.2.8 Save Settings / Reboot

This function is required for all configuration settings. To ensure that the configurations take effect, the last step to configuration settings is to save the settings and reboot the device.

Follow the steps below to access and Save Settings/Reboot.

Step 1: To access *Save Settings/Reboot*, click the ***Basic*** link located at the top right-hand side of the page.

Step 2: Click the ***Save/Reboot*** button to save your configuration settings. The *Saving Configuration* page appears:



Step 3: Click ***Save & Reboot*** button if you wish to apply all changes. Two different pages/screens will appear.

The first one states that: *"Your settings are being saved and the device is being rebooted. Save/reboot in progress, please wait…."*

The second screen follows with *"Your settings have been saved and the device has rebooted. Done".*

Your settings have been saved and the router has been rebooted.

Step 4: Click ***Reboot Only*** button if you wish to discard all changes since the last save. Two different pages/screens will appear after pressing this button. Two pages will appear after pressing this button.

The first screen states: "The device is being rebooted. Reboot in progress, please wait…."

The second screen follows with "The modem is being rebooted. Done."

The following table describes the settings for the *Save/Reboot* buttons and their definitions:

Field Name	Description
Save & Reboot	Clicking this button will apply all the changes or settings made and reboot the router. Once the settings have been saved, the message prompt: '*Your settings have been saved and the modem has rebooted. Done'* will appear.
Reboot only	This function basically reboots the OPEN 812 VoIP ATA router and does not save configuration changes.

7. Advanced Configuration

This chapter covers the advanced VoIP configurations required for your router. The *Advanced Configuration* page is divided into two sections: VoIP and Admin Privileges.

VoIP enables telephone calls through existing Internet connection instead of going through the PSTN (Public Switched Telephone Network). It is not only cost-effective, especially for a long distance telephone charges, but also toll-quality voice calls over the Internet.

The VoIP configurations are:

- Config
- Service Provider
- User Profile
- FXO Config
- Timer Config
- Ringtone Config
- Miscellaneous Config
- Address Book
- Auto Provisioning

The Admin Privileges configurations are:

- Route Table
- Bridge Timeout
- RIP Config
- DMZ Config
- SNTP Config
- Misc Config
- Admin Password
- Reset to Default
- Firmware Upgrade
- Auto Update
- Save/Reboot

A brief description of each of the configurations is discussed in the following sections.

7.1 Advanced VoIP

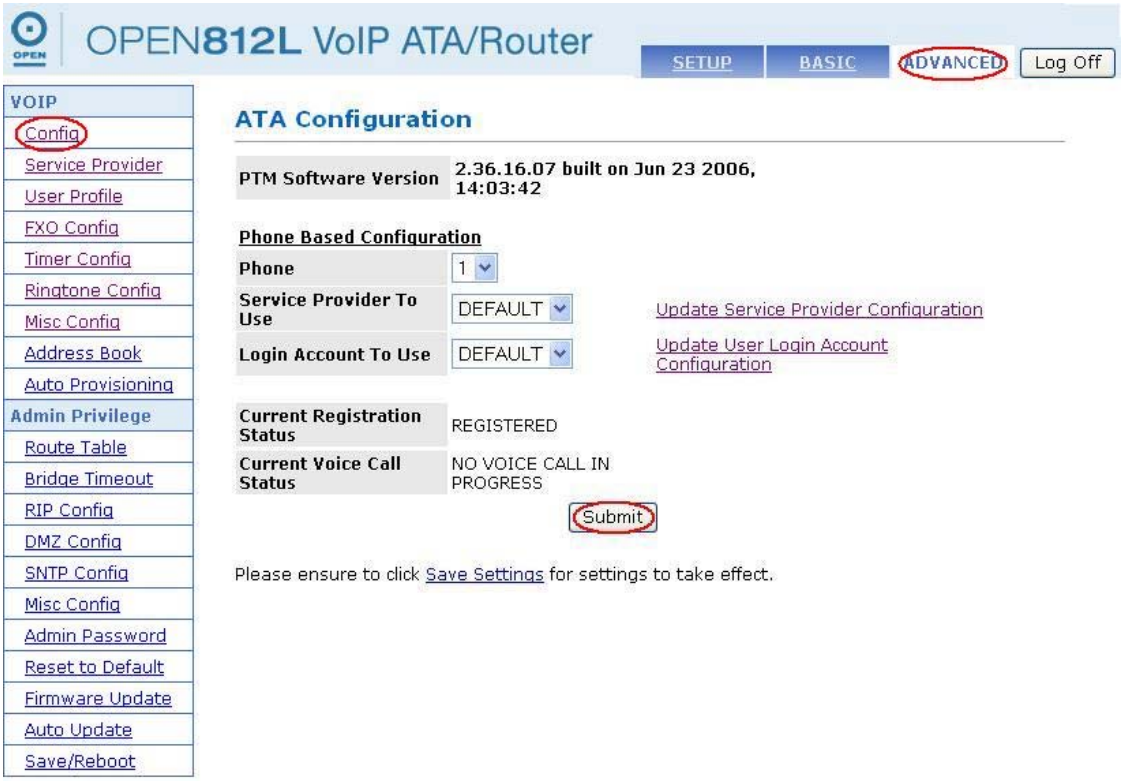
7.1.1 Config

Your Phone-Based configuration can be set up here. Before you begin, please ensure that you have obtained the necessary information from your VSP.

Follow the steps below to guide you through the *Config* setup.

Step 1: To access *Config*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click the ***Config*** link located on the left menu. The following page appears:

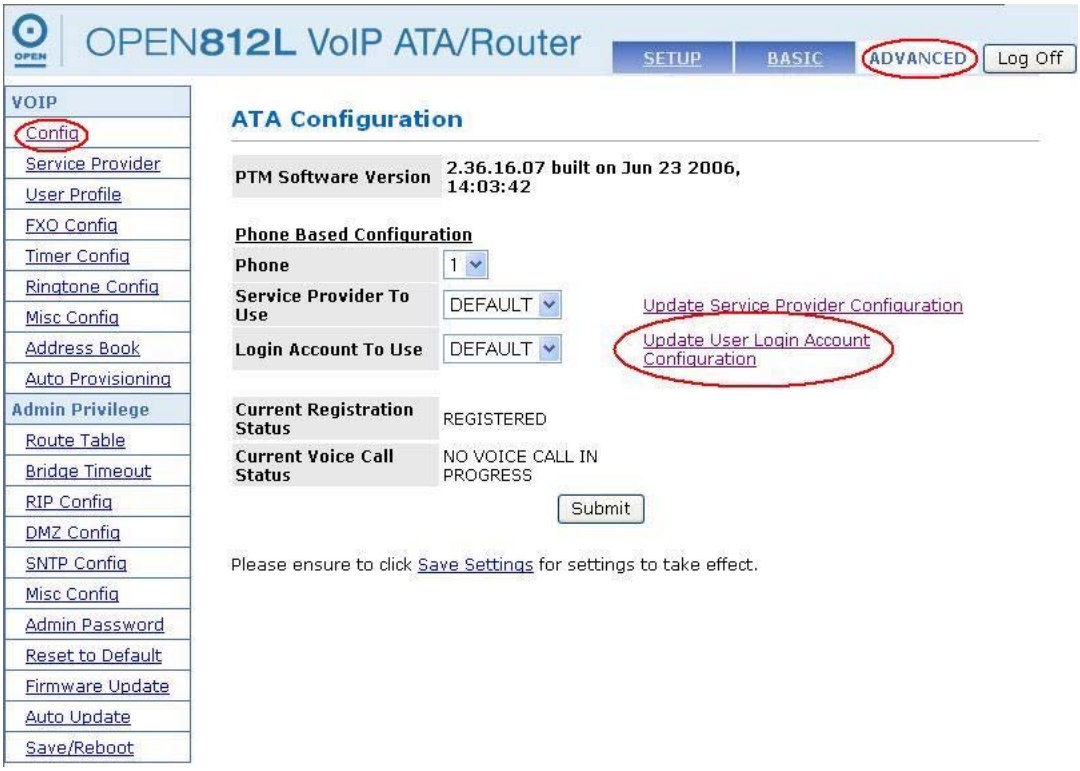


Step 3: To begin configuring the OPEN 812L VoIP ATA router, select '1' or '2' from the ***Phone*** list box.

Step 4: Select your VSP from the ***Service Provider To Use*** list box. If there are no service providers on the list, click the ***Update Service Provider Configuration*** link to add a new service provider as shown below.

Step 5: The ***ATA SIP Service Provider Configuration*** screen appears. To configure the VSP details, please refer to the next section under ***Service Provider.***

Step 6: Select from the ***Login Account To Use*** list box from the user account details. If there is no user accounts set up as yet, click the ***Update User Login Account Configuration*** link as shown below.



Step 7: The *ATA Login Account Configuration* screen appears. To configure the user account details, please refer to the ***User Profile*** section of this user guide.

Step 8: Click the ***Submit*** button to submit the changes made.

Step 9: Click the ***Save Settings*** button to save the changes made.

The following table describes the settings for the *ATA Configuration* window and their definitions:

Field Name	Description
PTM Software Version	This field displays the current version of your ATA application and the PTM module. PTM stands for Packet Telephony Module. It is made of codes that defines and controls all FXS and FXO-related features.
Service Provider To Use	This field holds your service provider's details that you have registered with. Select from the list box for the service provider you are working with. This will update the user logon details available and configured for that particular service provider.
Login Account To Use	This refers to the user profile that is applicable to the service provider you have selected to work with. Multiple user logins can be created per service provider. Further more, SIP protocol also allows the same login to be used for registration from multiple locations. So the same login under the same service provider can be used from multiple lines.
Current Registration Status	This field displays the current registration status of your line. If the line is registered, the status will be shown as REGISTERED. If it is not registered, you will see the UNREGISTERED status. The dial tone cannot be played when the WAN interface is DOWN or REGISTRATION is FAILED.
Submit	Click the *Submit* button to submit the changes made.
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.

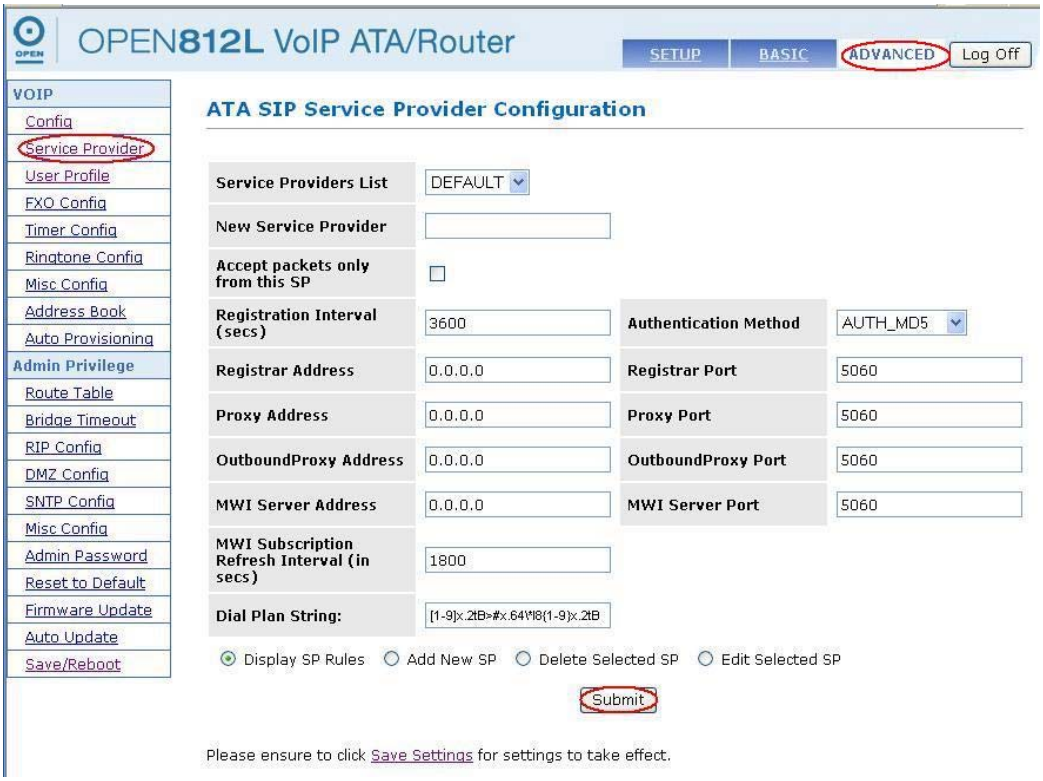
7.1.2 Service Provider Configuration

The *Service Provider Configuration* page allows user to set up the configuration related to their SIP service provider. The information must be obtained from the VSP before configuration can begin.

Follow the steps below to guide you through the *Service Provider Configuration*.

Step 1: To access *Service Provider*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click the ***Service Provider*** link located on the left menu. The following page appears:



Step 3: Select the service provider from the ***Service Provider*** List provided.

Step 4: Under the ***New Service Provider*** field, manually enter the name of the new service provider. A maximum of 31 characters is provided for this field.

Step 5: The ***Accept Packets Only From This SP*** is an optional field and is defaulted to blank.

Step 6: To configure the remaining fields, refer to the table provided below.

Step 7: Click the ***Submit*** button to complete the configuration.

Step 8: To save the settings, click the ***Save Settings*** button.

The following table describes the parameters for the *Service Provider* window and their definitions:

Field Name	Description
Service Provider List	You may select your service provider during configuration by using the list box provided. When a service provider is selected from this dynamic list, the respective parameters are automatically displayed. A DEFAULT set of parameters is provided for every new service provider added. This can be edited accordingly. You may define new service providers and add them manually. An existing service provider can be edited or even deleted.
New Service Provider	*New Service Provider* is a text-field where you may enter the name of the new service provider to be added (up to 31 characters), or to rename an existing service provider. The service provider edited will be the one chosen from the *Service Provider To Use* field under the *ATA Configuration* page.
Registration Interval (secs)	This parameter specifies the registration expiry interval in seconds. After the interval period expires, re-registration is required for the registration packet.
Registrar Address	This parameter gives the IP address of the registrar with which the OPEN 812L VoIP ATA router must register in order to make VoIP calls.
Proxy Address	This parameter is the IP address of the SIP proxy server.
OutboundProxy Address	This parameter is the IP address of the Outbound proxy server. This is useful in instances where the OPEN 812L VoIP ATA router is behind a NAT.
MWI Server Address	This parameter is the IP address of the MWI server. MWI stands for Message Waiting Indicator. This is an optional field.
MWI Subscription Refresh Interval (in secs)	This parameter specifies the MWI Subscription Refresh interval in seconds.
Dial Plan String	This parameter defines the advanced telephony features.
Authentication Method	This parameter indicates the authentication method used. Currently, only MD5 is being supported. MD5 is a widely used crytopgraphic hash function with a 128-bit hash value. It is an Internet standard (RFC 1321) that has been employed in a wide variety of security applications, and is also commonly used to check the integrity of files.
Registrar Port	This parameter informs the port of the registrar on which it will listen for Registrar requests from the OPEN 812L VoIP ATA router.

Field Name	Description
	Note: The range for the Registrar port address is between 5000 and 65535. The default port is set to 5060.
Proxy Port	This parameter is the port on which the SIP proxy server will listen for messages.
OutboundProxy Port	This parameter is the port on which the outbound proxy server listens for messages from the ATA.
MWI Server Port	This parameter is the port on which the MWI server listens for messages from the ATA.
The ATA provides radio buttons with options to Display, Add, Delete or Edit the service provider details. You will be able to manipulate the various SIP and dial plan parameters for your working service provider.	
Display SP Rules	This is the default option. Selecting this option means that the selected service provider will be displayed in the Service Provider List after clicking on the *Submit* button. This selected option is the *Service Provider To Use* field under the *ATA Configuration* page and it is mandatory.
Add New SP	This function allows you to add a new service provider after you click the *Submit* button, based on the value that appears in the *Service Provider To Use* field under the *ATA Configuration* page.
Delete Selected SP	Selecting this option will delete the selected *Service Provider To Use* field under the *ATA Configuration* page.
Edit Selected SP	Editing the selected SP basically overwrites the selected service provider's parameters and displays the current parameters displayed on the web page. The New Service Provider field is optional and it needs to be filled only when the service provider name also has been changed.
Submit	Click the *Submit* button to submit the changes made.
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.

7.1.3 User Profile

The User Profile allows users to set up and configure login accounts that are registered with the selected service provider currently selected under the Config page. For example, if the Service Provider To Use option selected is 'DEFAULT', the Service Provider Name on the User Profile page will display 'DEFAULT'.

Follow the steps below to guide you through the set up.

Step 1: To access *User Profile*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click **User Profile** on the left menu. The *ATA Login Account Configuration* page appears:

Step 3: Notice that the ***Service Provider Name*** displayed is 'DEFAULT', as per the *Service Provider To Use* selection made in the *Config* page. Similarly, the *User Profile List* of 'DEFAULT' is also displayed based on the parameters set up for the *Login Account To Use,* also named 'DEFAULT'.

Step 4: The ***Auth User ID and Password*** will be defaulted to the user name and password entries made during the *Setup* of your router, as per *Step 2: Voice Service Provider (Phone 1)* page.

Step 5: Refer to the following table for a detailed description of the fields on the *User Profile* page.

The following table describes the settings for the User Profile window and their definitions:

Field Name	Description
Service Provider Name	This is defaulted to the Service Provider set up on the *Config* page under the *Service Provider To Use* option.
User Profile List	The options on the list box allows you to select the login account for which the configuration needs to be done. When a login account is selected from this dynamic list, the respective parameters are automatically displayed. A DEFAULT set of parameters is provided for every new login added. This can be edited accordingly. Alternatively, you can define and add new logins manually. Similarly, you can also edit or delete and existing user account using the radio options provided.
New User Profile	This is a text-field where you may enter the name of the new login account you wish to add, or to rename an existing login account. The login account edited will be the one chosen from the *Service Provider List.*
Auth User ID	This is the authorized user ID as per the setup of your router under the *Voice Service Provider (Phone 1).*
User Name	This parameter holds the Registration ID given by the service provider you have registered your account with.
Password	This parameter holds the Password used for authentication with your registered service provider.
Display Name	This parameter holds the Display Name, as it should appear on the Caller ID.
The ATA provides the following radio options – *Display, Add, Edit and Delete* – where you can manipulate the various login parameters for the login account chosen. You may use these functions to update your user login accounts.	
Display User	This is the default option. When you click the *Submit* button, the selected login details will be displayed.
Add User	This function allows you to add a new login account when you select the *Add User* option. Click the *Submit* button to submit the new user details. Remember to enter the *New User Profile* field before you click the *Submit* button.
Edit User	Changes made to the user profile details will overwrite existing parameters with the new parameters when you click the *Submit* button. The *New User Profile* field is optional when are editing an existing login account.
Delete User	Selecting this option will remove the selected login account from the *Login Account List*.
Submit	Click the *Submit* button to submit the changes made.
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.

NOTE	***The maximum number of login accounts you can add is 4 per service provider and there must be at least 1 login account per service provider available.***

7.1.4 FXO Configuration

The *FXO Configuration* is used to configure the system level FXO parameters. FXO stands for Foreign Exchange Office.

Follow the steps to guide you through *FXO Configuration*.

Step 1: To access *FXO Exchange*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click the ***FXO Exchange*** link located on the left menu. The following page appears:

Step 3: To configure the remaining fields on this page, refer to the following table for definitions of each field.

The following table describes the settings for the *FXO Exchange* window and their definitions:

Field Name	Description
CID Enable	CID stands for Caller ID. This parameter is used to enable or disable the PSTN Caller ID display.
Tone Detection Wait Timer (secs)	This field determines the length of time in seconds that the device will wait for the PSTN dial tone to be detected after you have pressed the Hook Flash/recall button. In case the dial tone is not detected or there is a timeout, a fast busy tone will be heard.

Field Name	Description
User PSTN on Registration Failure	The OPEN 812L VoIP ATA router will use the PSTN network when SIP Registration fails.
Relay Hook Flash to CO	This radio button enables hook flash/recall to be sent to your PSTN Network. It is defaulted to **Yes**.
Submit	Click the *Submit* button to submit the changes made.
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.

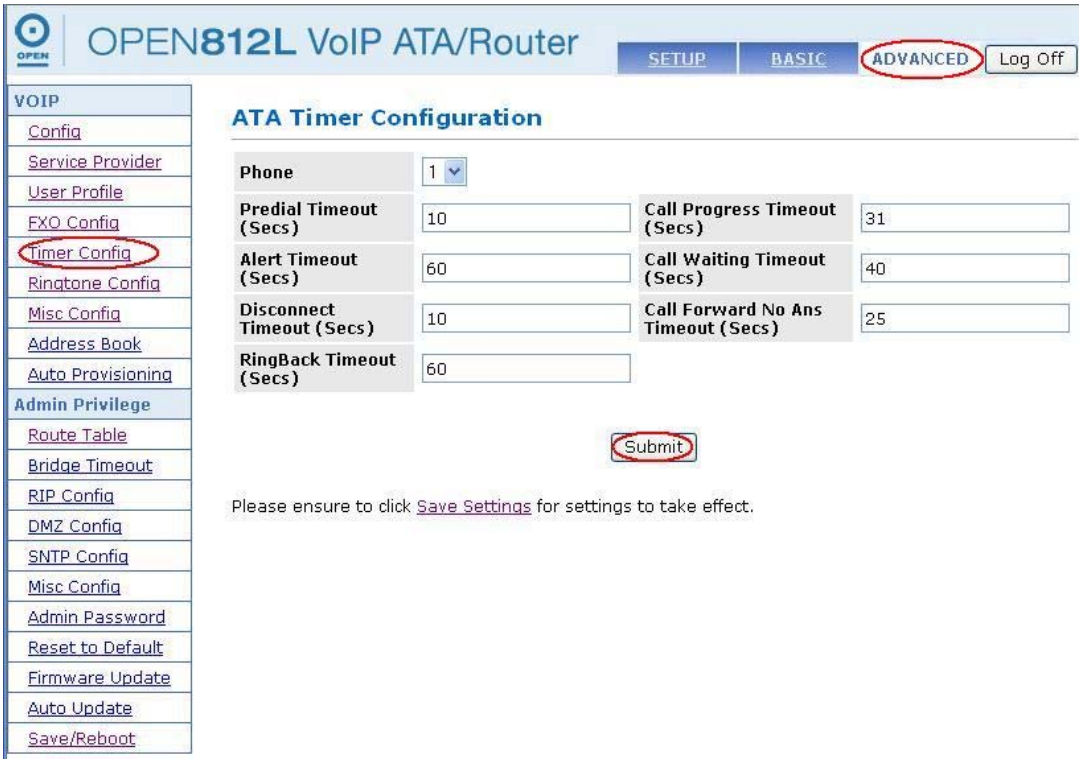
7.1.5 ATA Timer Configuration

The ATA Timer Configuration provides a number of timers used at the system level, which can be configured through the Web Interface. The values on the timer have to be given in seconds only. This section explains the various timers available for your configuration.

Follow the steps below to access the ATA Timer Configuration web page.

Step 1: To access *ATA Timer Configuration*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Timer Configuration*** on the left menu. The following page appears:



Step3: The fields on this page are defaulted to the timings displayed above. To change the timings for any of the fields, simply enter the new time in seconds and click the ***Submit*** button.

The following table describes the settings for the ATA Timer Configuration window and their definitions:

Field Name	Description
Phone	Phone '1' is the default option. Select '1' to configure PHONE 1 or select '2' to configure PHONE 2. When a phone is selected, the other fields in this section are refreshed with the currently configured values.
Predial Timeout (secs)	The pre-dial timer indicates the time period through which the dial tone is heard once the phone has been lifted off the hook. At the end of this period (e.g. 10 seconds), if no digits are entered, you will hear a fast and busy tone on your phone.
Alert Timeout (secs)	The Alert timer indicates the time when the OPEN 812L VoIP ATA router will ring when an incoming call is received and the phone is off the hook. After the timer seconds have run out, the OPEN 812L VoIP ATA router will automatically stop ringing and reject the call.
Disconnect Timeout (secs)	The disconnect timer indicates the time when the fast and busy tone will be heard when a call has been disconnected by the other party. At the end of this time, a warning or warbling tone can be heard until the user hangs up the phone.
RingBack Timeout (secs)	The Ringback timer indicates the time period when the OPEN 812L VoIP ATA router will wait while the Ringback tone is played for the final response from the other end. This happens after the initial response has been made after an outgoing call has been made.
Call Progress Timeout (secs)	The CallProgress timer indicates the time period when the OPEN 812L VoIP ATA router will wait for the initial response once an outgoing call has been made.
Call Waiting Timeout (secs)	The CallWaiting timer indicates the period when the call-waiting tone can be heard when an incoming call is received in an active connection state. The Call Waiting tone can be heard at intervals of 10 seconds. It is configurable using the Call Waiting tone parameters.
Call Fwd No Ans Timeout (secs)	This field indicates the time after the call has been forwarded but there was no answer or response.
Submit	Click the *Submit* button to submit the changes made.
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.

7.1.6 Ringtone Configuration

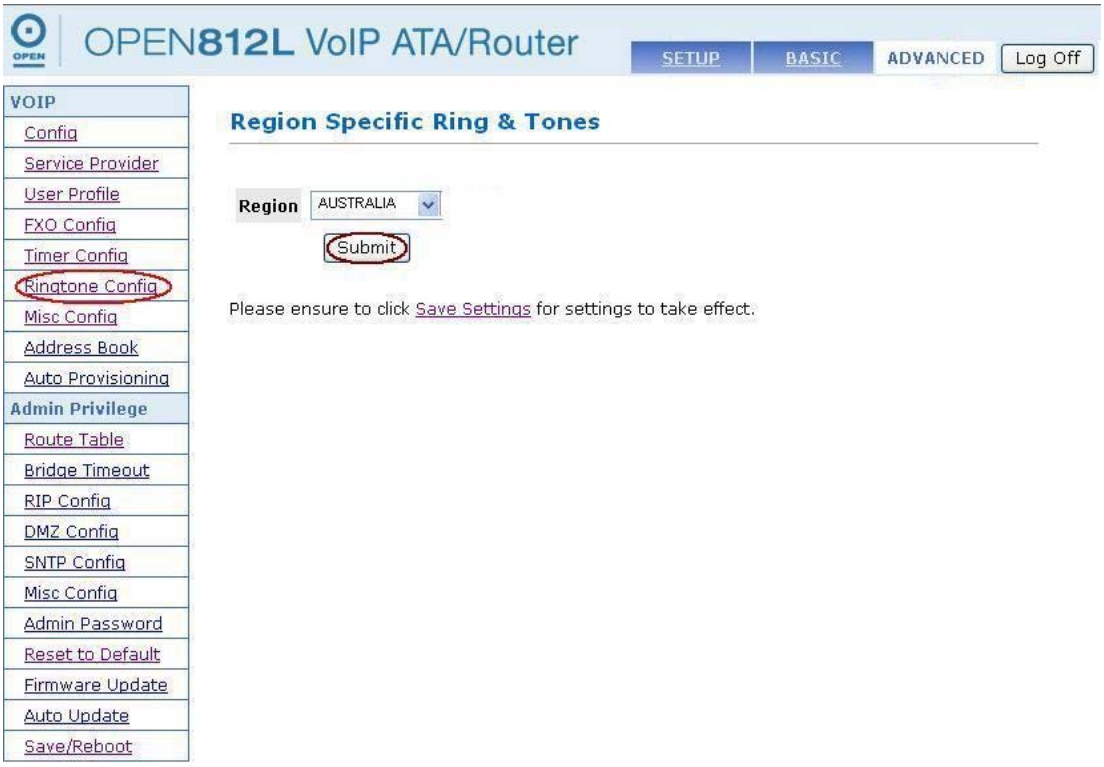
The *Ringtone Configuration* page allows users to select the country-specific ringtones that are generated by the OPEN 812L VoIP ATA router application. These include ring, dial, busy and ring back tones.

The OPEN 812L VoIP ATA router provides default ring-tone parameters configured for various countries.

Follow the steps below to access and configure the *Ringtone Configuration* web page.

Step 1: To access *Ringtone Configuration*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Ringtone Config*** on the left menu. The following page appears:



Step 3: Click the down-arrow of the ***Region* list** box, and select ***Australia***.

Step 4: Click the ***Submit*** button to complete the configuration.

Step 5: To save the settings, click the ***Save Settings*** button.

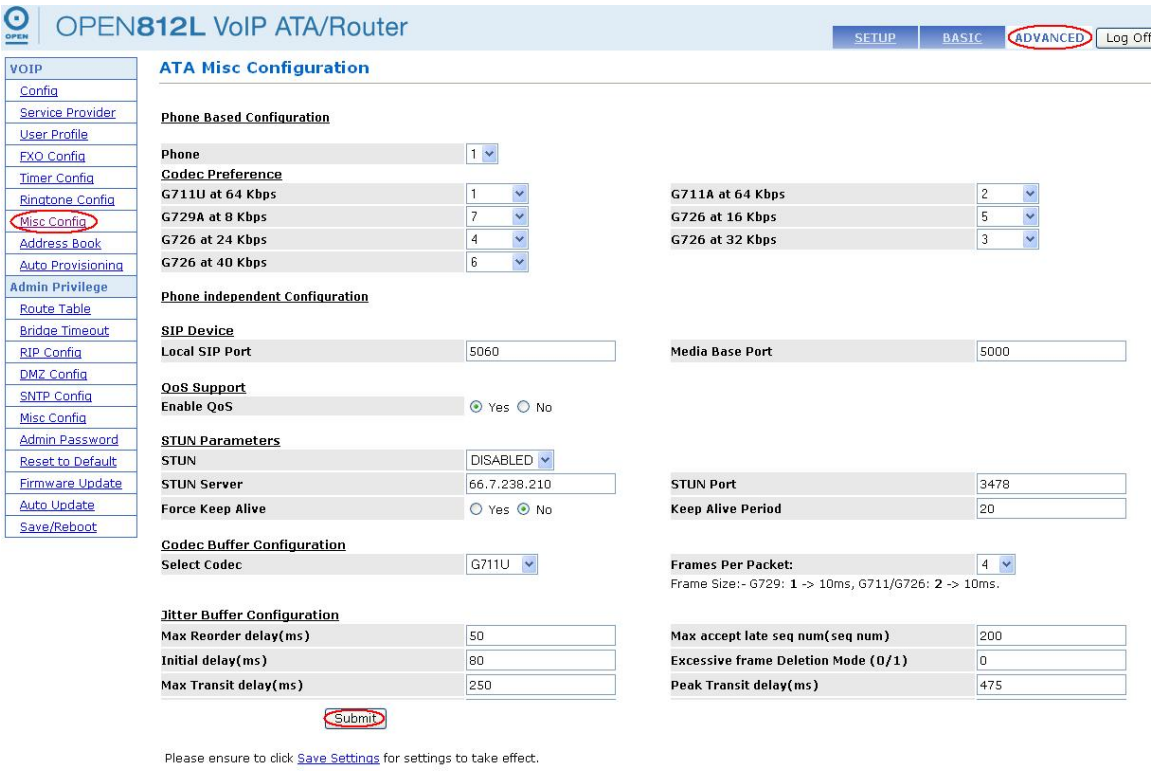
7.1.7 ATA Miscellaneous Configuration

The *ATA Misc Configuration* page allows users to set up configurations related to the SIP, STUN parameter and the Codec preference. Default settings can be found on this page.

Follow the steps below to view or modify the settings on the ATA Misc Configuration page.

Step 1: To access *ATA Misc Configuration*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Misc Configuration*** on the left menu. The *ATA Misc Configuration* page appears:



Step 3: The default settings for the various sections are shown as above. You may make changes to the current settings to configure your router.

The following table describes the settings for the *ATA Misc Configuration* window and their definitions:

Field	Definition	
Phone	Phone '1' is the default option. Select '1' to configure PHONE 1 or select 2 to configure PHONE 2. When a phone is selected, the other fields in this section are refreshed with the currently configured values.	
Codec Preference	This section allows the user to select the preferred codec in a sequence of 1 To 7. '1' is the most preferred Codec to use. Refer to your VSP on which Codec Preference to use. The Codec Preference determines the order by which all the supported codecs will be placed in a call setup message sent to any destination line.	
SIP Device	*Local SIP Port*	Enter the local SIP Port number on which the ATA should listen for the messages. The range is 1 to 65535. The default port is 5060.
	Media Base Port	Enter the Media Base Port (also known as the RTP port) number. This parameter provides the base value from the media (RTP) ports that are assigned for various lines and the different call-sessions that may exist within an end-point. Odd port values are not recommended. If an Odd Value is entered, the next higher even value is used as the Media Base Port. This is to conform to the RFC specifications. The range is 1 to 65500. The default port is 5000
STUN Parameters	This section configures NAT Traversal technique support in the OPEN 812L VoIP ATA router. These parameters are dependent on your VSP. The parameters are optional.	
	STUN	The default setting is DISABLED Select ENABLED to enable STUN if the ATA is behind a NAT enabled router and the router has no ALG for SIP, or DISABLED to disable STUN (ATA is not to use STUN for NAT traversal).
	STUN Server Address	Enter the IP address or Domain Name of the STUN Server. The default is 66.7.238.210. This field is applicable only if USE STUN is selected as the NAT traversal technique.
	STUN Server Port	Enter the port number on which the STUN server listens for requests from the STUN Client on the ATA. The range is 1 to 65535. The default is 3478. This field is applicable only if USE STUN is selected as the NAT traversal technique.
	Force Keep Alive	Only valid when STUN is not used. If STUN is not enabled, and keep alive is still expected to be sent then select Yes otherwise select No.
	Keep Alive Period	The *Keep Alive* interval in seconds to be used when STUN is not enabled.
Submit	Click the *Submit* button to submit the changes made.	

Field	Definition
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.

7.1.8 Address Book Configuration

The *Address Book* page allows for the configuration of address book entries that can be used for the speed dial execution of calls.

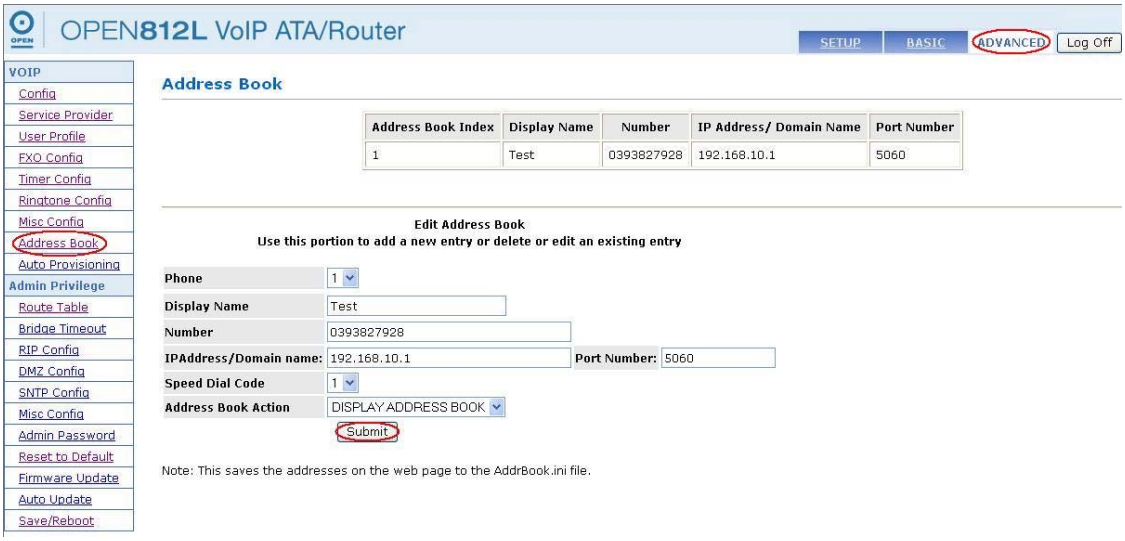
The *Address Book* page is divided into two sections. The top half of the screen displays the current address book table that have been configured for the selected Endpoint.

The bottom half of the screen can be used for editing the address book. This includes adding new entries, deleting existing entries, modifying existing entries and displaying the values corresponding to an entry index or speed dial index in the address book.

Follow the steps below to access and configure the *Address Book* page.

Step 1: To access *Address Book*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Address Book*** on the left menu. The *Address Book* page appears:



Step 3: Select '1' to configure PHONE 1 or '2' to configure PHONE 2 from the list box.

Step 4: Enter the ***Display Name*** for this address book entry.

Step 5: Enter the Phone number in the ***Number*** field. Do not add any spaces in this field.

Step 6: Enter the ***IP Address/Domain Name*** that applies to this address book entry you are currently adding. This field is optional if the ***IP Address*** field is entered. Similarly, if you leave this field blank, ensure that the ***Number*** field is populated.

Step 7: Enter the ***Port Number*** using the SIP port number on which the remote end will receive the call. This field is useful when you want to specify non-telephone number entries, where the call can be made directly without going through the configured

proxy server. When this field is not specified, the default SIP port of 5060 is assumed.

Step 8: Enter the ***Speed Dial Code*** you wish to use for the number being configured. This refers to the index in the address book as well as the speed dial entry code.

Step 9: The *Address Book Action* provides a list box to select the action to be taken. You may select from one of the following options. The definitions for these options can be found in the table below:

- Display Address Book
- Add New Entry
- Edit Sel Entry
- Delete Sel Entry

Step 10: Click the ***Submit*** button to complete the configuration.

Step 11: To save the settings, click the ***Save Settings*** button.

The following table describes the various *Address Book Action* options and their definitions:

Field	Definition	
Address Book Action	There are four *Address Book Action* options available.	
	Display Address Book	This is the default option. Selecting this option displays the selected address book details after clicking the **Submit** button.
	Add New Entry	Selecting this option adds a new address book entry after clicking the **Submit** button.
	Edit Sel Entry	This option deletes the selected address book entry from the Address Book List.
	Delete Sel Entry	This option deletes the selected address book entry. Select **Yes** or **No** as required.

NOTE	1. ***The above parameters are specific to the endpoint selected in the ATA Configuration page.*** 2. ***Up to ten addresses book entries can be added per endpoint.*** 3. ***Address book entries addition/deletion/editing do not need a Save and Reboot. The changes are reflected immediately.***

7.1.9 Auto-Provisioning

Auto-Provisioning allows VSPs to update the OPEN 812L VoIP ATA router's configuration automatically.

This functionality is dependent on any changes from you VSP.

7.2 Admin Privileges

7.2.1 Route Table

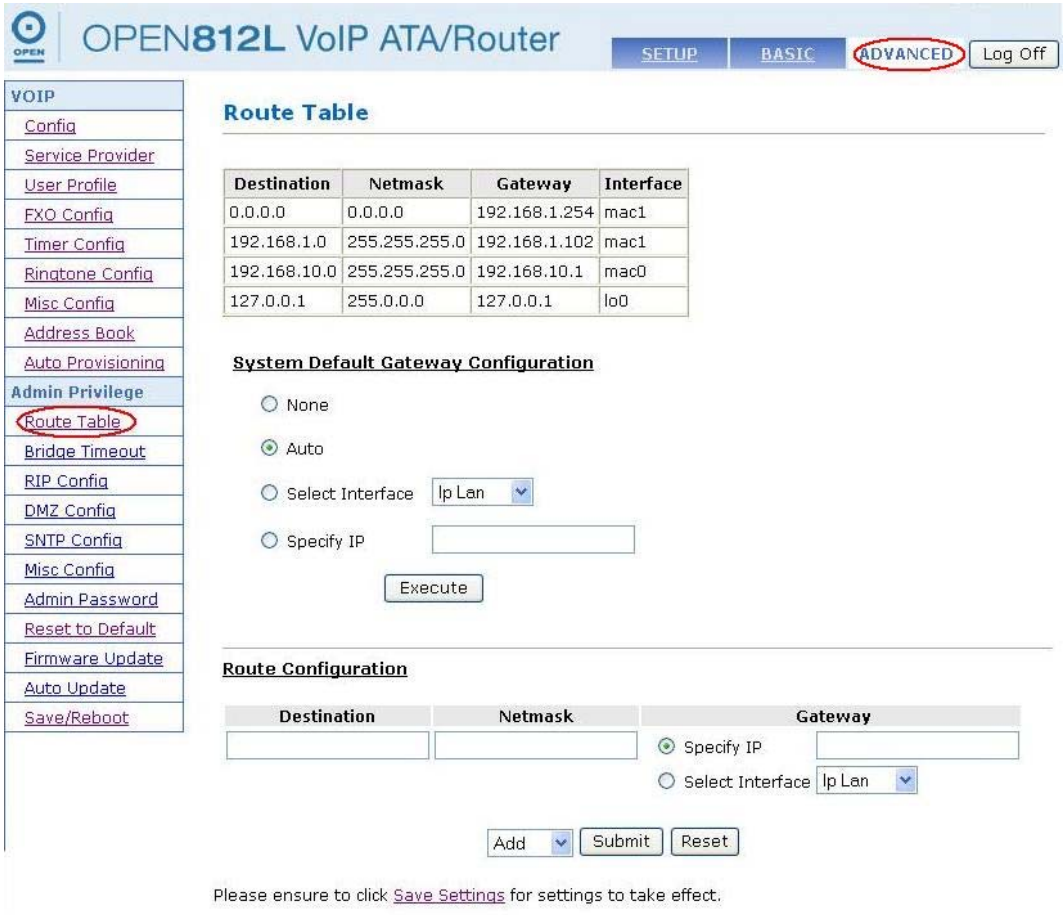
The *Route Table* page displays the routing table and allows you to manually enter a routing entry. It consists of three sections: the *Routing Status* table, the *System Default Gateway Configuration* and *Route Configuration*.

The *Routing status* table provides information on the *Destination, Netmask, Gateway*, and *Interface* of your routing connections. The interface 'lo0' indicates the loop back interface; ppp1 indicates the PPP interface.

Follow the steps below to access and configure the *Route Table* page.

Step 1: To access *Route Table*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Route Table*** on the left menu. The following page appears:

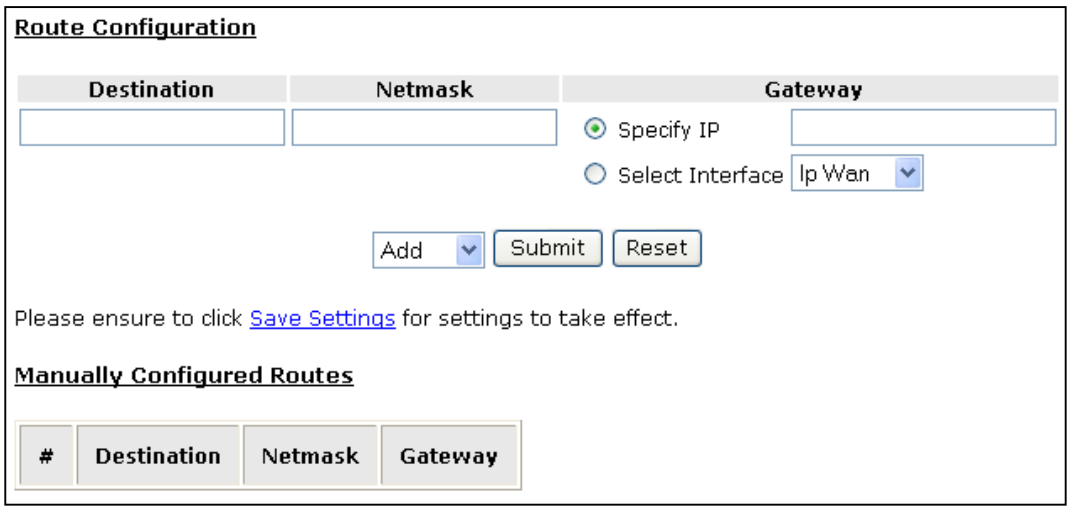


Step 3: To set up the configurations for the *Route Table*, please refer to the table provided of the field definitions and the available options for your configurations.

The following table lists the *Route Table* screen fields and their definitions:

Field	Definition	
System Default Gateway Configuration	This provides the following four options:	
	None	This field allows the user to choose to have no Default Gateway in the router.
	Auto	This field allows the user to select the router to automatically decide the Default Gateway. (System Default)
	Select Interface	This field allows the user to select a Network Interface from a list. This option allows the user associate the system default gateway to a network interface, static or dynamic, and provides a way to fix the Default Gateway to a dynamic Network Interface before the interface is established.
	Specify IP	This field allows the user to manually enter a Default Gateway IP.
Execute	Click the *Execute* button to in order for the configuration to take effect.	
Submit	Click the *Submit* button to save the changes made.	
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.	

7.2.2 Route Configuration



You may ***Add*** or ***Delete*** the IP addresses using the Add/Delete list box option provided.

The following table lists the *Route Configuration* screen fields and their definitions:

Field	Definition	
Destination	This field allows the user to enter the remote network or host IP address for static routing.	
Netmask	This field allows the user to enter the subnet mask for static routing.	
Gateway	*Specify IP*	This field allows the user to enter the IP address of the gateway device that allows the router to contact the remote network or the host for Specified IP or select an Interface for the Gateway.
	Select Interface	There are 2 options: Ip WAN Ip LAN
Add/Delete Option	You may choose to add new or delete existing route configurations	
Reset	Click the Reset button if you wish to reset route configuration details completely.	
Submit	Click the *Submit* button to save the changes made.	
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.	
Manually Configured Routes	This field displays the static route entries submitted by the user.	

7.2.3 Bridge Timeout

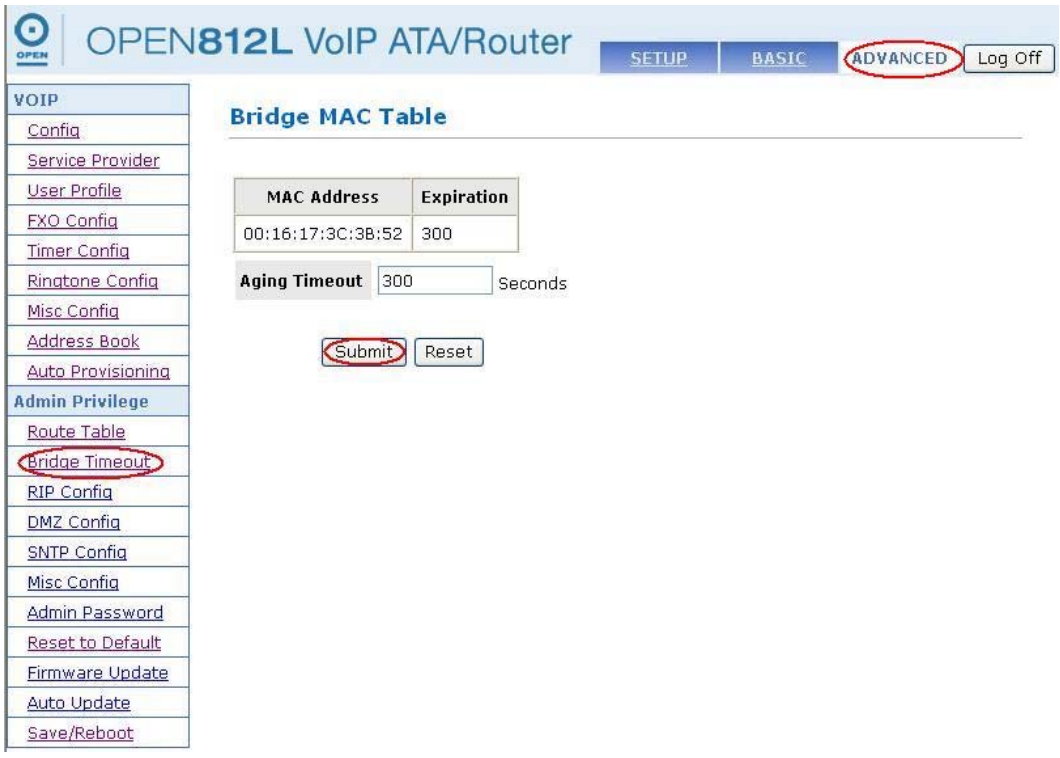
Network bridges operate at the physical network layer. The purpose of a bridge is to connect two or more networks and enable packet sharing between them. Bridges are different from routers because they forward packets based on physical addresses, whereas routers use IP address to forward packets.

Bridges must learn all the physical (MAC) addresses of the devices so it can forward the packets reliably. The purpose of the *Bridge MAC Table* is to store and display these bridge-recognized MAC addresses. This page contains information that is dynamic and will refresh every 8 seconds.

Follow the steps below to access and configure the *Bridge Timeout* page.

Step 1: To access *Bridge Timeout*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Bridge Timeout*** on the left menu. The *Bridge MAC Table* page appears:



Step 3: There is only one field to populate in the *Bridge MAC Table.* Enter the number of seconds for the ***Aging Timeout*** field.

This field allows you to enter the update period for the MAC table. Make the number lower if you wish to have a more frequent refresh rate.

The range for the *Aging Timeout* field is 0 - 32767. The default is set to *300*.

Step 4: Click the ***Submit*** button to complete the configuration.

7.2.4 RIP System Wide Configuration

RIP (Routing Information Protocol) is a management protocol that ensures that all hosts in a particular network share the same information about routing paths. In RIP, a host computer will send its entire routing table to another host computer every X seconds, where X is the supply interval. The receiving host computer will in turn repeat the same process by sending the same information to another host computer. The process is repeated until all host computers in a given network share the same routing knowledge.

There are several components to RIP, including the authenticator, supplier, and listener.

Authenticator: Authentication is only available for RIPv2. When it is disabled, RIPv2 messages containing authentication entries are discarded. When it is enabled, all RIPv2 messages must have proper authentication entries, and all RIPv2 messages without verified authentication entries and all RIPv1 messages are automatically rejected.

Supplier: The RIP Supplier has two functions:

It transmits route updates over every RIP Supplier interface at the interval specified by **Supply Interval** (see below).

It transmits route updates in response to specific requests from other routers.

Listener: The RIP Listener listens to and processes all RIP messages it receives from other RIP routers and updates the host routing tables accordingly. The RIP Listener is always enabled when RIP is enabled. By default, RIP is disabled.

The announcement messages RIP sends are based on two configuration parameters: RIP Version number and Multicast:

Version	Multicast	Announcements Sent
1	OFF	V1
2	ON	V1
2	OFF	V2-BC
2	ON	V2-MC

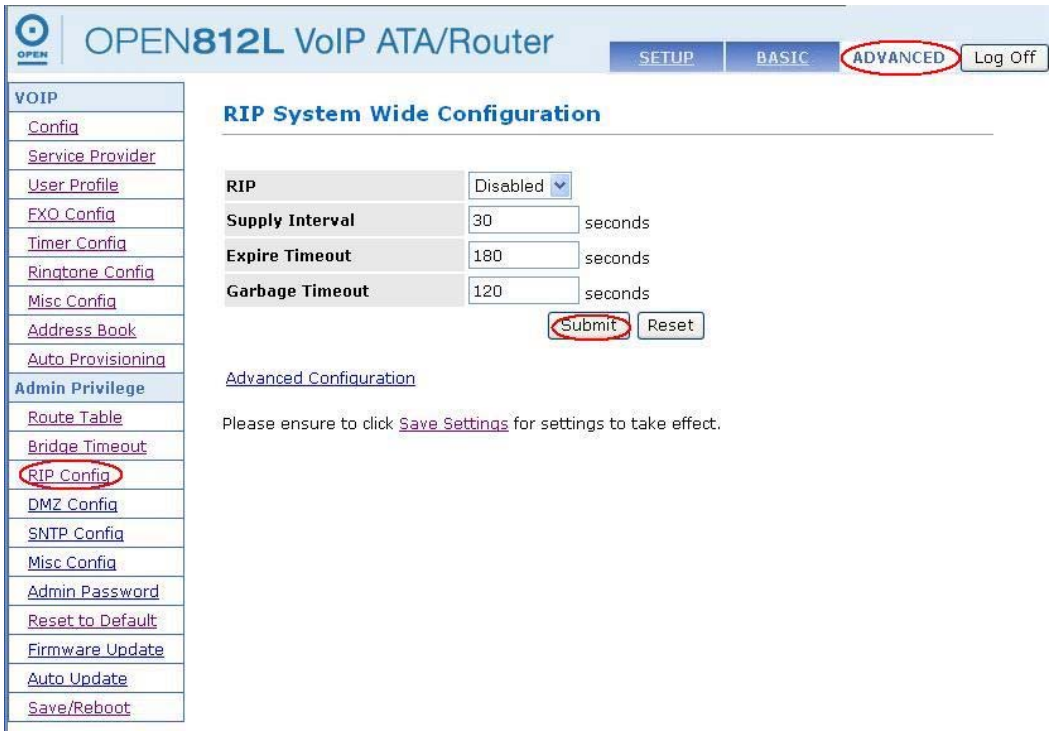
The RIP messages that can be received and processed are based on two configuration parameters: RIP Version number and Multicast:

Version	Multicast	Announcements Sent
1	OFF	V1
2	ON	V1
2	OFF	V2-BC
2	ON	V2-MC

Follow the steps below to access and configure the *RIP System WIde Configuration* page.

Step 1: To access *RIP System WIde Configuration*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***RIP Config*** on the left menu. The *RIP System WIde Configuration* page appears:



Step 3: Select to ***Enable*** or ***Disable RIP session*** using the list box provided. RIP is disabled by default. The resulting RIP session will monitor all network interfaces that are currently available for messages from tother RIP routers.

Step 4: Populate the ***Supply Interval*** field in seconds. This field specifies how often the RIP sends out announcements as a RIP Supplier. The range for the *Supply Interval* field is from 0 - 2147483647 seconds. It is defaulted to 30 seconds.

Step 5: Populate the ***Expire Timeout*** field in seconds. This field specifies the expiration time of a route. When a route has not been updated for more than the 'expired' period of time, it is removed from the *Route Table.* This route is then regarded as invalidate and will remain in the internal *RIP Route Table*.

It will be included in the RIP announcements to let other routers know the changes. The range for *Expire Timeout* is from 0 - 2147483647. The default is set to *180*.

Step 6: Populate the ***Garbage Timeout*** field. This field specifies how long the expired and invalidate routes are to be kept in the internal *RIP Route Table* before they are removed. The range for *Garbage Timeout* is from 0 - 2147483647. The default is set to *120*.

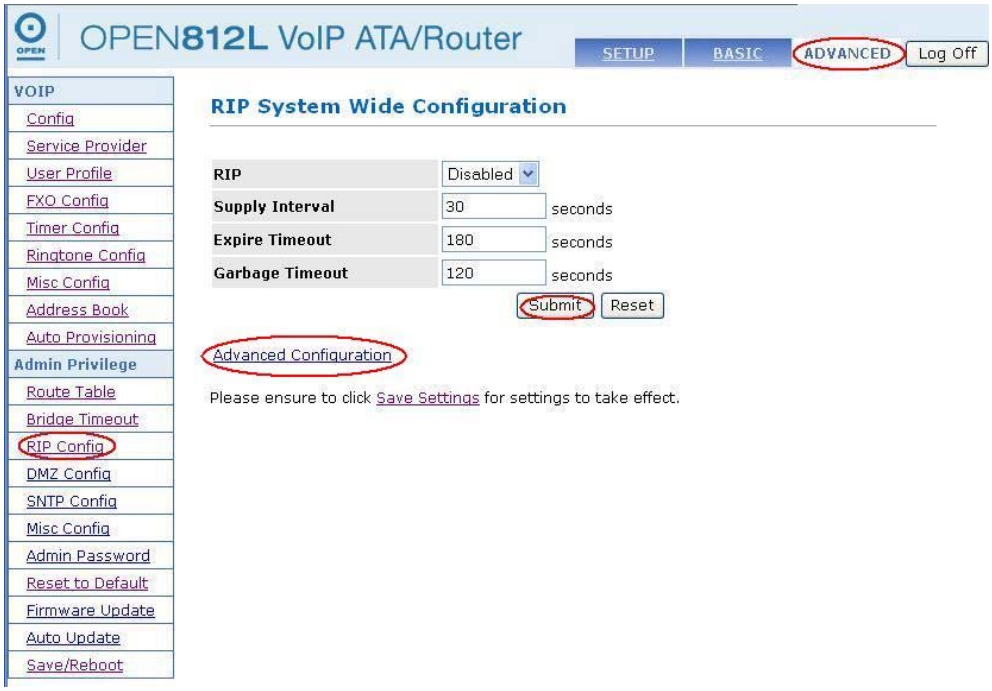
Step 7: Click the ***Submit*** button to complete the configuration.

Step 8: To save the settings, click the ***Save Settings*** button.

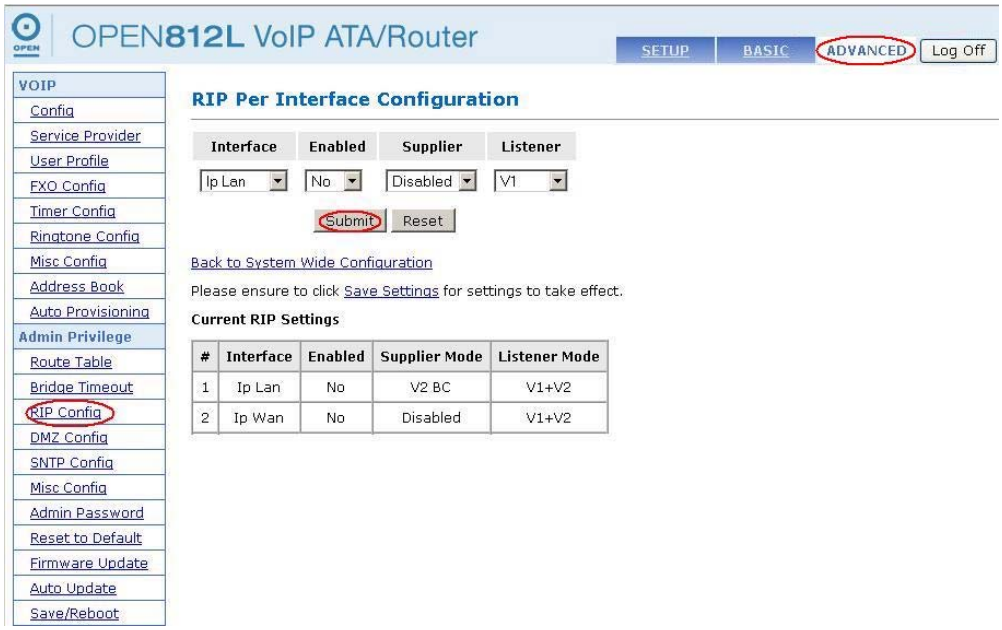
Advanced Configuration

Follow the steps below to access the *RIP Per Interface Configuration* page.

Step1: To configure the *Interface* and view *Current RIP Settings*, click the ***Advanced Configuration*** link provided.



Step 2: The *RIP Per Interface Configuration* page appears:



Step 3: Refer to the following table to configure the fields on this screen.

The following table lists the *RIP Per Interface Configuration* screen fields and their definitions:

Field	Definition	
Interface	This field allows you to choose the Interface. The available selections are: *Ip VPN* and *Ip WAN* (maximum of 16).	
Enabled	This field allows you to ***Enable (Yes)*** or ***Disable (No)*** the specified interface for RIP.	
Supplier	This field allows you to select the ***Supplier Mode*** (RIP Transmit).	
	Disabled	The supplier transmit is disabled.
	V1 BC	The supplier transmits in RIPv1 Broadcast.
	V2 BC	The supplier transmits in RIPv2 Broadcast.
	V2 MC	The supplier transmits in RIPv2 Multicast.
Listener	This field allows you to select the *Listener Mode* (RIP Receive)	
	V1	The listener receives the RIPv1 only.
	V2	The listener receives the RIPv2 only.
	V1 + V2	This listener receives the both RIPv1 and RIPv2.
Current RIP Settings	This field displays the each interface's RIP status.	

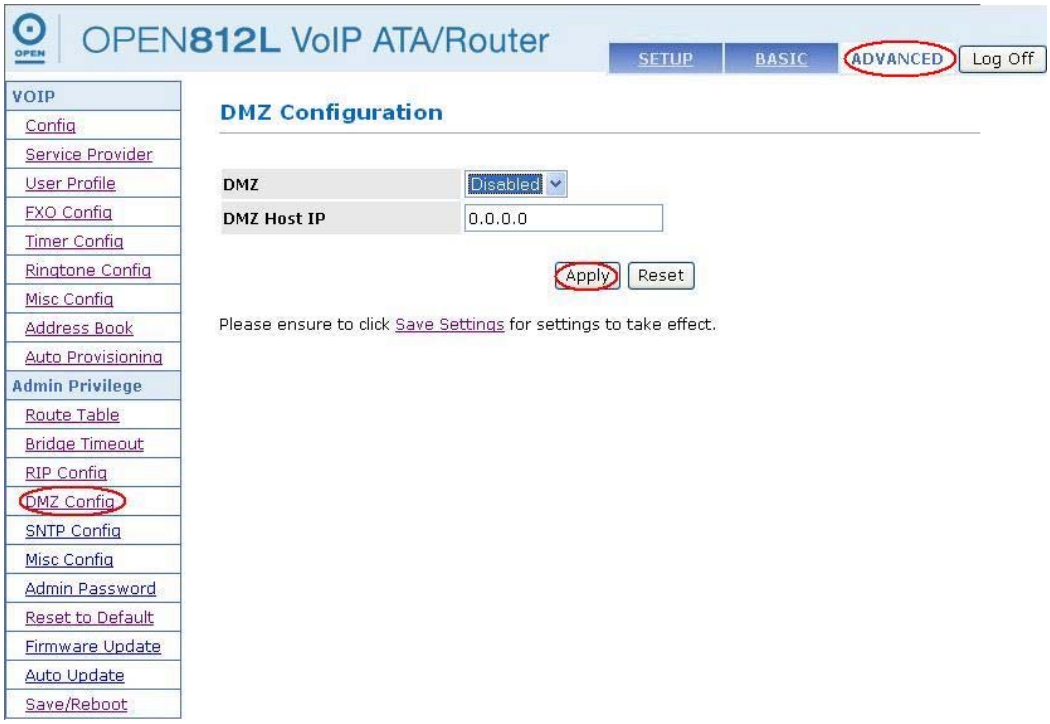
7.2.5 DMZ Configuration

The *DMZ* (De-Militarized Zone) *Configuration* page allows you to map a local computer to this zone. The DMZ is added between a protected network and an external network. When there is a suspected packet coming from the WAN, the firewall will forward this packet to the DMZ host.

Follow the steps below to access and configure the *DMZ Configuration* page.

Step 1: To access *DMZ Config*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***DMZ Config*** on the left menu. The *DMZ Config* page appears:



Step 3: Select to ***Enabled*** or ***Disabled*** the DMZ. The default is set to ***Disabled***.

Step 4: Populate the ***DMZ Host IP*** field with the IP address of the DMZ host.

Step 5: Click the ***Apply*** button to apply the settings made.

Step 6: Click the ***Reset*** button to refresh the page. Re-enter the fields as required.

Step 7: Click the ***Save Settings*** link to save the changes made.

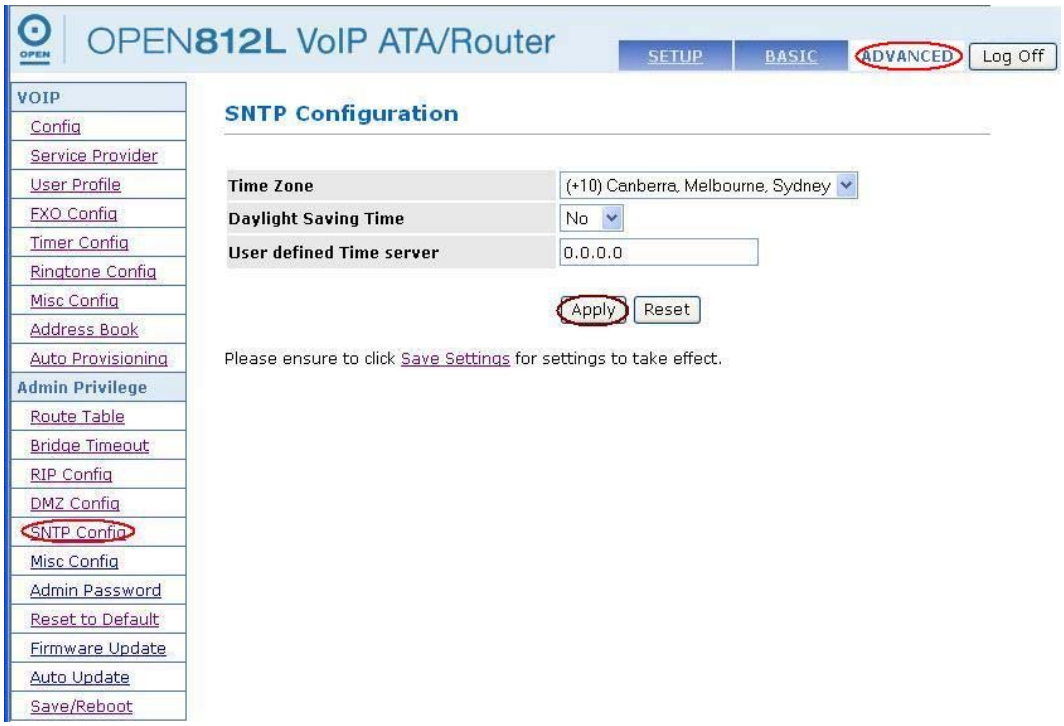
7.2.6 SNTP Configuration

This screen allows you to set the Simple Network Time Protocol or SNTP configuration. SNTP is an efficient method of obtaining the time from a timeserver. It is a system used for synchronizing the clocks of networked computer systems, primarily when data transfer is handled via the Internet.

Follow the steps below to access and configure the *SNTP Configuration* page.

Step 1: To access *SNTP Configuration*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***SNTP Configuration*** on the left menu. The *SNTP Configuration* page appears:



Step 3: Enter the time zone of your geographical location. For example: *+10 GMT for Canberra, Melbourne and Sydney.*

Step 4: Select ***Yes*** or ***No*** from the list box for ***Daylight Saving Time***. Select ***Yes*** if it applies to your location and ***No*** if it does not apply.

Step 5: Specify the IP address of your preferred SNTP server in the ***User-Defined Time Server*** field. The default is set to 0.0.0.0.

Step 6: Click the ***Apply*** button to apply the settings made.

Step 7: Click the ***Save Settings*** link to save the changes made.

NOTE	***When the OPEN 812L ATA router is successfully connected to the SNTP server, the system log will reflect the updated time. Refer to the screen image example below.***

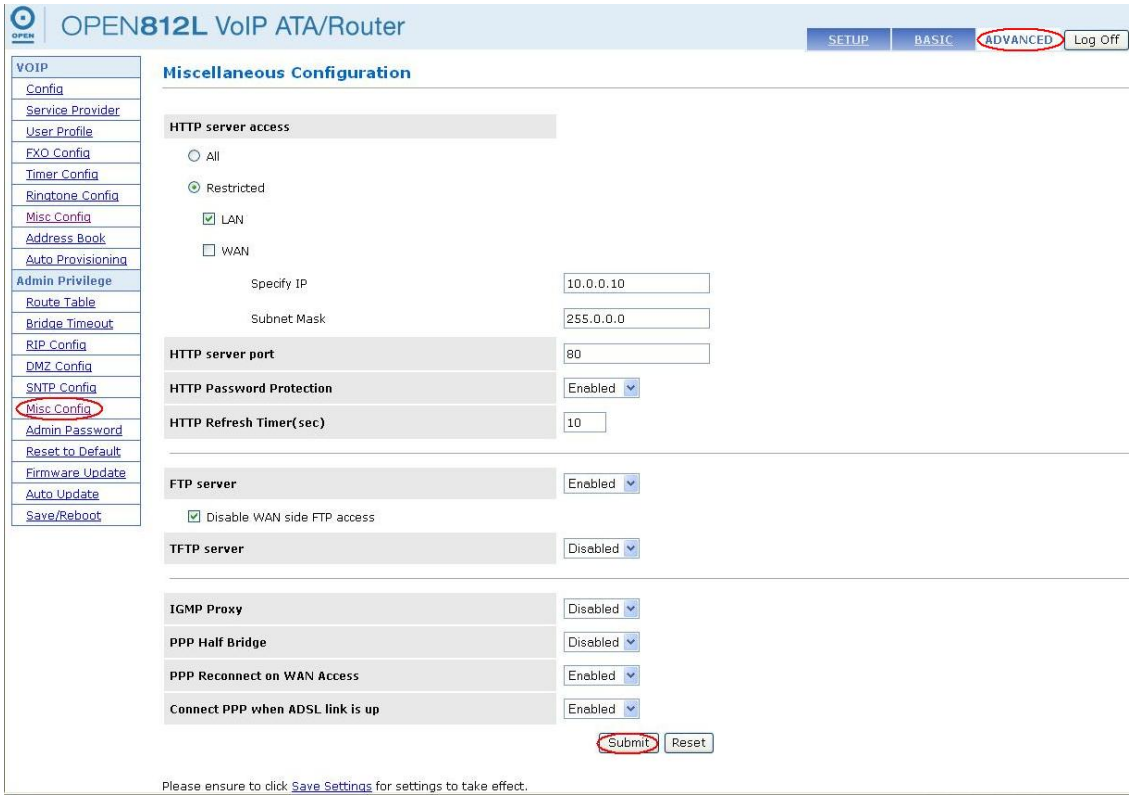
7.2.7 Miscellaneous Configuration

This page allows you to configure miscellaneous configurations such as HTTP, FTP, IGMP and PPP.

Follow the steps below to access and configure the *Miscellaneous Configuration* page.

Step 1: To access *Miscellaneous Configuration*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click **Misc Config** on the left menu. The *Miscellaneous Configuration* page appears:



Step 3: Refer to the table below to configure the fields on this page.

The following table lists the *Miscellaneous Configuration* fields and their definitions:

Field	Definition	
HTTP Server Access	This field allows you to configure the location from which these Web pages can be accessed.	
	All	When this field is checked, it allows both WAN and LAN access to the Web pages.
	Restricted LAN	This field allows the Web pages access from the LAN side. This is the default setting.
	Restricted WAN Specified IP & Subnet Mask	This field allows the Web access from the WAN side with a specified IP and subnet mask. The default settings for Specified IP and Subnet Mask are 10.0.0.10 and 255.0.0.0 respectively.
HTTP Server Port	This field allows you to specify the port of the Web access. For example, when it is changed to 8080, the HTTP server address for the LAN side is http://192.168.10.1:8080. Range for HTTP Server port is 0 – 32767. The default value is 80.	
HTTP Password Protection	This field allows you to enable or disable HTTP authentication. The default is set to DISABLED.	
FTP server	This field allows you to enable or disable the FTP server connection. The default is set to Enabled.	
Disable WAN side FTP access:	This will disable the WAN side access to the FTP server. The default is set to DISABLED.	
TFTP server	This field allows you to enable or disable the TFTP connection. The default is set to DISABLED.	
IGMP Proxy	This is the global setting for IGMP Proxy. If it is enabled, the enabled IGMP Proxy on the WAN PVCs will be working. Otherwise, no WAN PVC can have IGMP Proxy working on it. The system is defaulted to DISABLED.	
PPP Half Bridge	When PPP Half Bridge is enabled, only one PC is able to access the Internet, and the DHCP server will duplicate the WAN IP address from the VSP to the local client PC. Only the PC with the WAN IP address can access the Internet. The system default is set to DISABLED.	
PPP reconnect on WAN access	If enabled, the PPP session will automatically establish a connection when a packet tries to access the WAN. The system is defaulted to DISABLED.	
Connect PPP when ADSL link is up	If this option is enabled, the OPEN 812L VoIP ATA router will connect the PPP session whenever an Internet connection is established.	
Submit	Click the *Submit* button to save the changes made.	
Save Settings	Click the *Save Settings* link and that takes you to the *Save Settings/Reboot* page. Refer to Section 7.2.12 for more information.	

7.2.8 Admin / Username Password Configuration

This page allows you to change the Administrator password.

Follow the steps below to access and configure the *Admin Password* page.

Step 1: To access *Admin Password*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Admin Password*** on the left menu. The following page appears:

Step 3: Enter your ***Current Password*** into this field.

Step 4: Your ***Username*** of 'root' is automatically populated.

Step 5: Enter your ***New Password*** into this field. Make sure the password is at least 8 characters long and does not contain the ampersand symbol '&'. This symbol will not be accepted.

Step6: Enter your new password again into the ***Retype Password*** field.

Step 7: Click the ***Submit*** button to complete the configuration.

Step 8: To save the settings, click the ***Save Settings*** button.

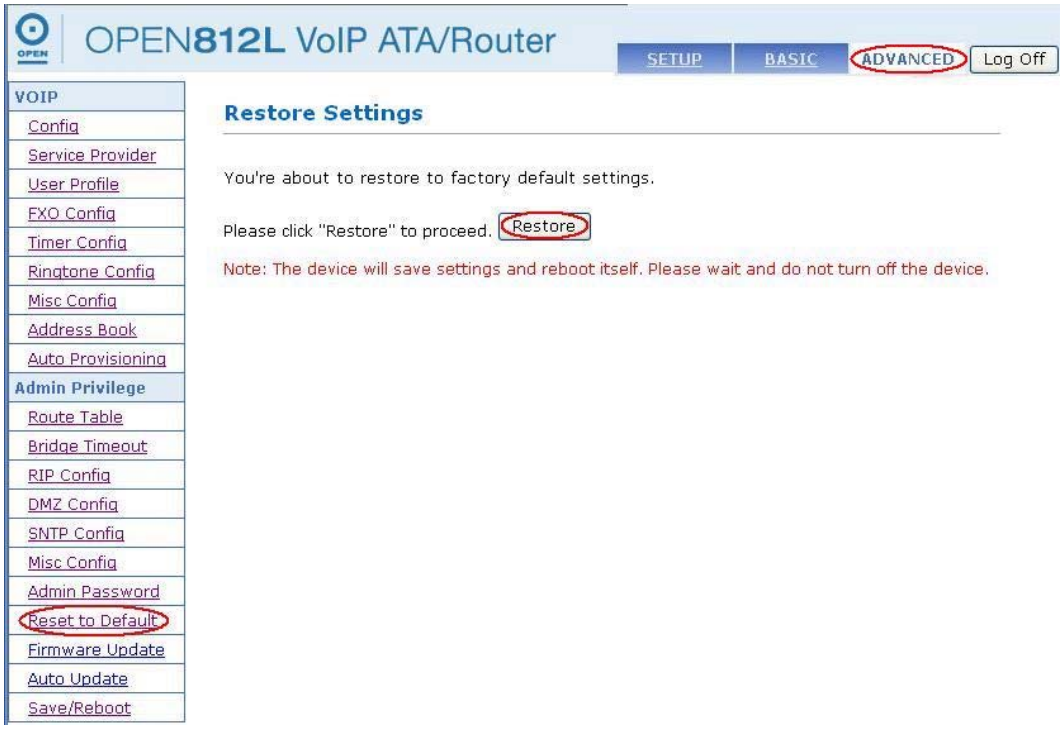
7.2.9 Reset to Default

This page allows you to reset the OPEN 812L VoIP ATA router to its original factory default configuration.

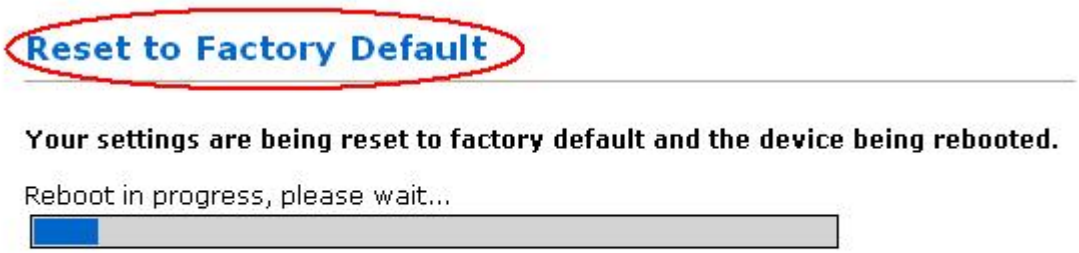
Follow the steps below to access and restore your factory default settings.

Step 1: To access *Reset to Default*, click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Reset to Default*** on the left menu. The following page appears:



Step 3: Click the **Restore** button to restore the settings. The following screen appears. Please wait a few minutes until the factory settings have been restored.


Reset to Factory Default
Your settings are being reset to factory default and the device being rebooted.
Reboot in progress, please wait...

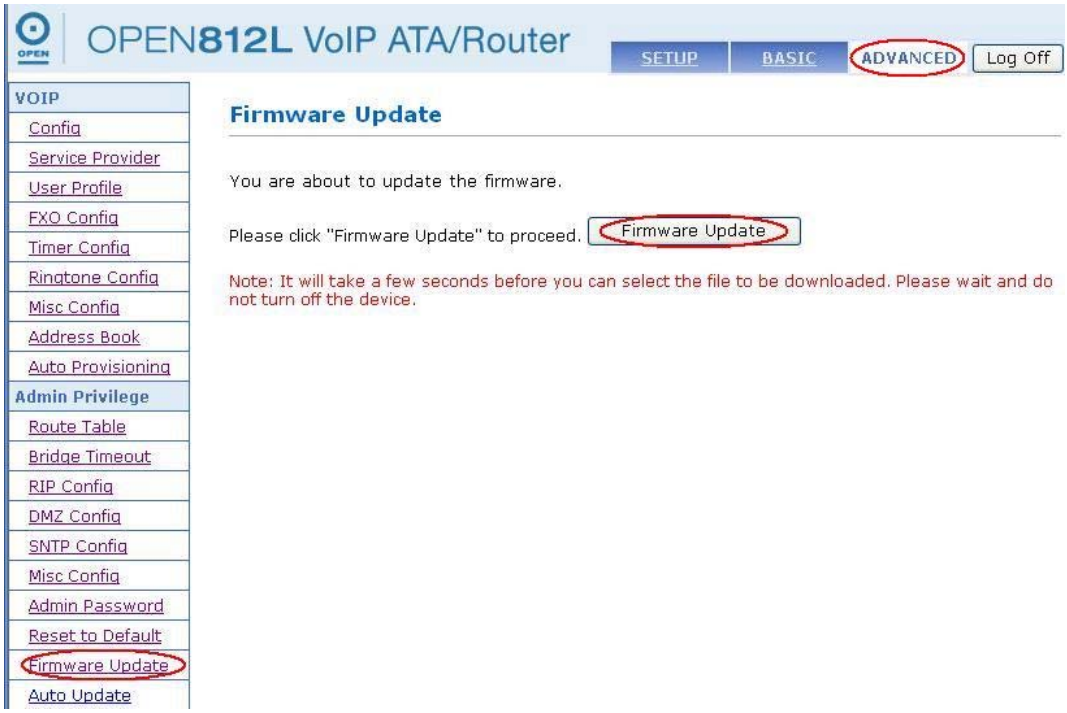
7.2.10 Firmware Update

This page allows the user to upgrade the firmware from the Web Interface.

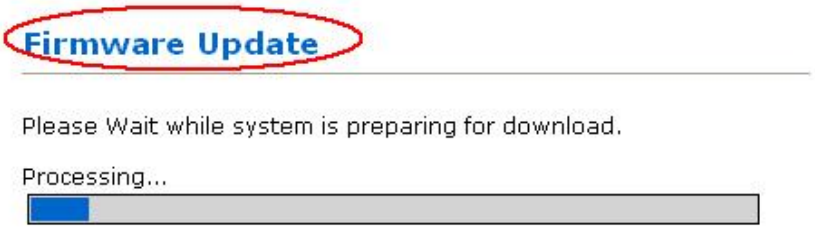
Follow the steps below to access and upgrade your firmware.

Step 1: To access *Firmware Upgrade*, click the ***Advanced*** link located at the top right-hand side of the page.

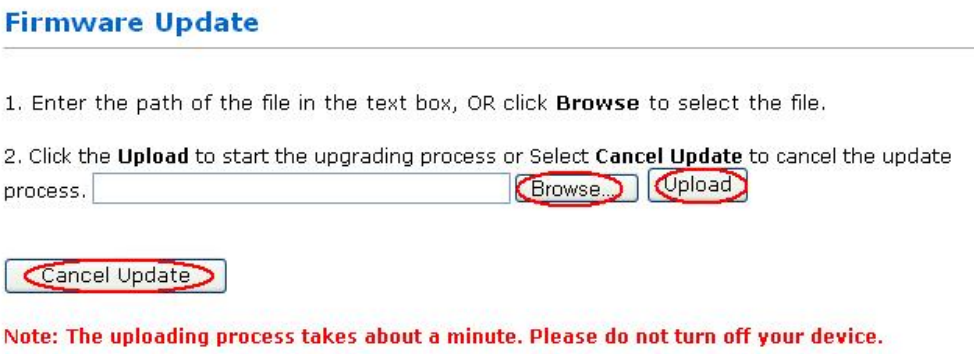
Step 2: Click ***Firmware Upgrade*** on the left menu. The following page appears:



Step 3: Click the ***Firmware Update*** button. The OPEN 812L VoIP ATA router prepares the for the firmware upgrade. The message as shown below will be displayed. Wait a few moments until the update process is completed.

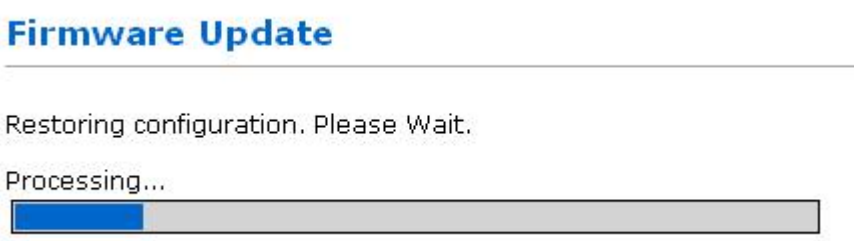


Step 4: Enter the path of the file in the text box as shown below or click the *Browse* button to locate the file. For example, 'C:/firmware.dlf'.


Firmware Update
1. Enter the path of the file in the text box, OR click Browse to select the file.
2. Click the Upload to start the upgrading process or Select Cancel Update to cancel the update process.
Browse...
Upload
Cancel Update
Note: The uploading process takes about a minute. Please do not turn off your device.

Step 5: Click the ***Upload*** button to start the upgrading process. Please wait a few moments. Do not turn off your router when the upgrade is being processed.

Step 6: Click the ***Cancel Update*** button to stop the update from being updated. The configuration will be restored. Wait a few moments until this process is completed.

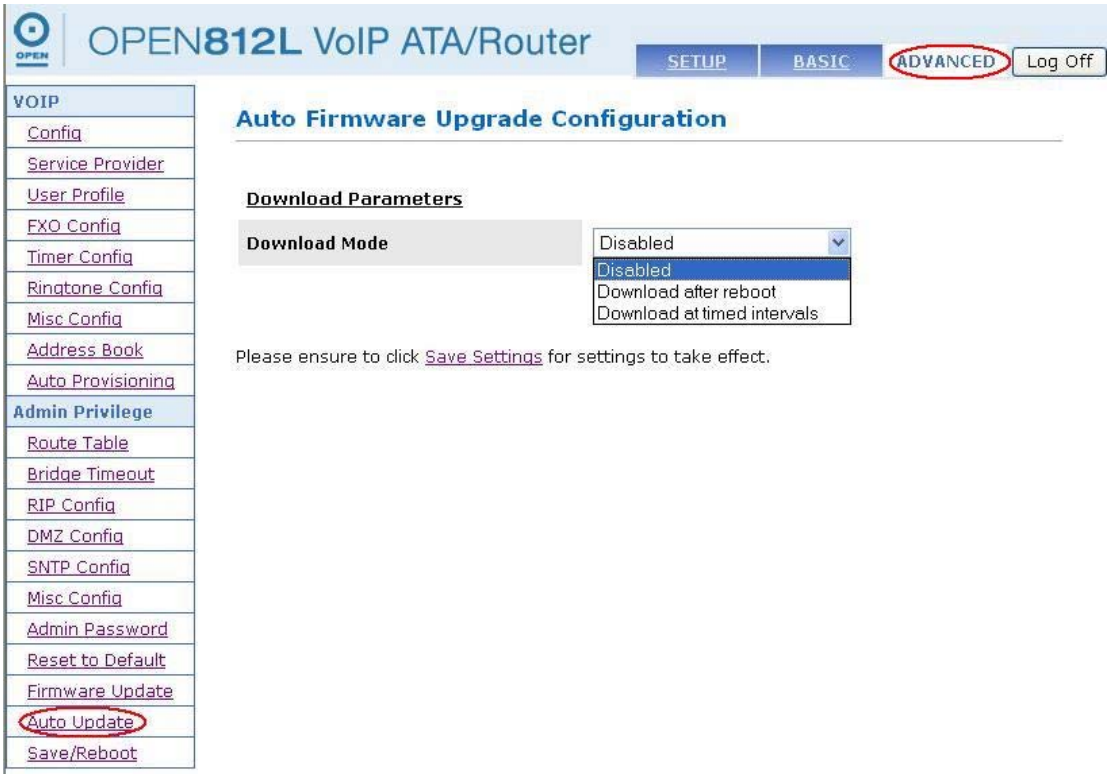


7.2.11 Auto Update

The Auto Update page allows your VSP to update the OPEN 812L VoIP ATA firmware automatically.

There are three options for the Download Mode (as shown in the image below): *Disabled*, *Download After Reboot* and *Download at Timed Intervals*.

This functionality is dependent on any updates from you VSP.



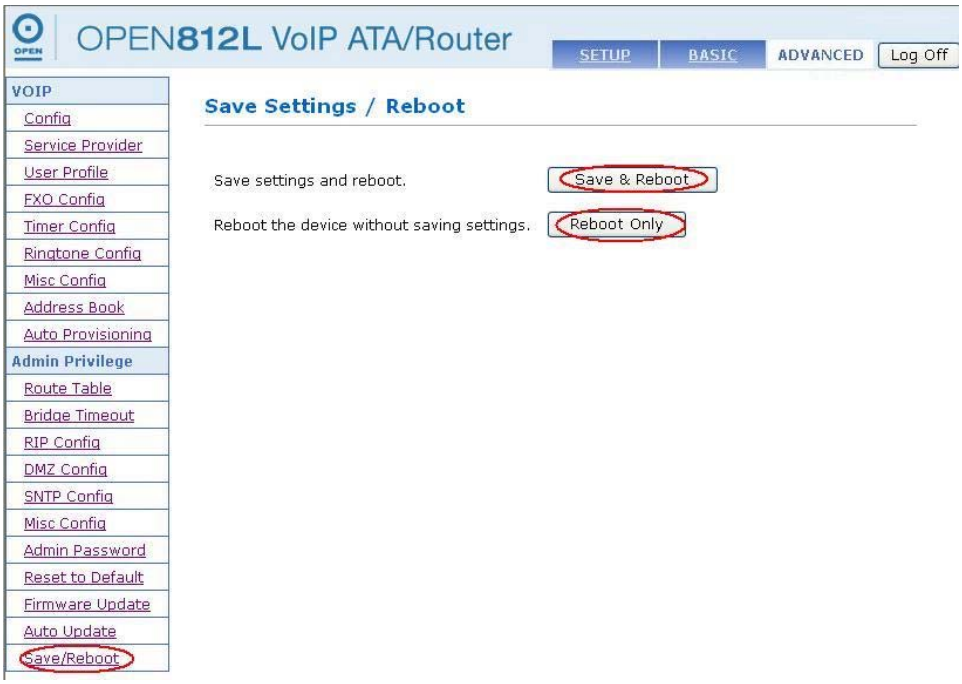
7.2.12 Save / Reboot

This page allows you to save the new configurations to the flash and reboot the OPEN 812L VoIP ATA router or simply reboot the ATA router without saving changes.

Follow the steps below to access and save your settings.

Step 1: To access *Save Settings/Reboot,* click the ***Advanced*** link located at the top right-hand side of the page.

Step 2: Click ***Save Settings/Reboot*** on the left menu. The following page appears:



Step 3: Click ***Save & Reboot*** button if you wish to apply all changes. Two different pages/screens will appear.

The first one states that: *"Your settings are being saved and the device is being rebooted. Save/reboot in progress, please wait…."*

The second screen follows with *"Your settings have been saved and the device has rebooted. Done".*

Your settings have been saved and the router has been rebooted.

Step 4: Click ***Reboot Only*** button if you wish to discard all changes since the last save. Two different pages/screens will appear after pressing this button. Two pages will appear after pressing this button.

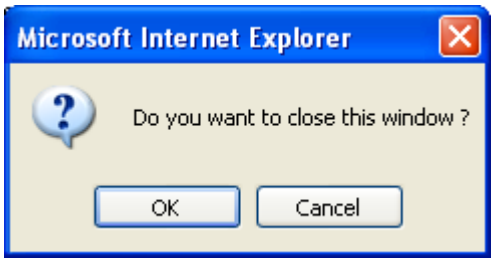
The first screen states: *"The device is being rebooted. Reboot in progress, please wait…."*

The second screen follows with *"The modem is being rebooted. Done."*

8. Log Off

The Log Off button allows you to log out of the router completely. It is located at the top right-hand menu.

Step 1: To log out, click the ***Log Off button*** on the top menu. A confirmation message appears:



Step 2: Click the ***OK*** button to close the window.

9. Making Phone Calls

The following sections will help you to understand how you could get the most out of the many features of your OPEN 812L VoIP ATA router.

9.1 Internet/VoIP Calls

To make a VoIP call, simply dial the number on your phone's dial pad.

9.2 PSTN Calls

To call regular PSTN telephone numbers, please use your VSP's dialling plan.

9.3 VoIP Advanced Call Features

The OPEN 812L VoIP ATA router supports advanced VoIP telephony features.

The features include:

- Caller ID
- Call-Waiting Caller ID
- Consultation Hold
- Blind Transfer
- Attended Transfer
- 3-Way Conferencing
- Call Waiting
- Call Forwarding
- Call Return
- IP Dialling
- Speed Dialling
- Caller ID Transmit Blocking

The steps on how to use the features below are included for easy reference.

NOTE	1. *Web configuration overrides any dial-pad based configuration and will be reflected only upon **Save and Reboot**.* 2. *The different actions executed when digit sequences are dialled, are based on the default dial plan rules specified in this document.* 3. *Some features require that a hook flash/recall be performed. To perform a hook flash/recall, quickly press and release the switchhook (push button) on the phone cradle or quickly press and release the flash button or other dedicated key/button on the telephone base unit or handset, depending on the other telephone.*

9.3.1 Caller ID

When the telephone rings, the OPEN 812L VoIP ATA router sends a Caller ID signal to the telephone between the first and second ring, with the name, telephone number, time and date information if these are available.

9.3.2 Call-Waiting Caller ID

The OPEN 812L VoIP ATA router plays the first Call Waiting tone, and then sends the name, telephone number, time and date information (if they are available) before the second *Call Waiting* tone is played.

9.3.3 Consultation Hold

This feature allows you to put an existing call on hold and calling another number.

How to use:

Step 1: During an existing call, perform a hook flash/recall to put the other party on hold and get a second dial tone at the same time.

Step 2: When you hear the dial tone, dial another number.

Step 3: When you are finished with the second call, perform a hook flash/recall to revert to the first party. You can also alternate between calls by performing a hook flash/recall.

9.3.4 Blind Transfer

This feature allows a user (transferor) to transfer an existing call to another telephone number (transfer target) without connecting to the transfer target number.

How to use:

Step 1: During an existing call, perform a hook flash/recall to put the other party on hold and get a second dial tone at the same time.

Step 2: When you hear the dial tone, press ****90*** on you telephone dial-pad.

Step 3: When you hear the alert tone indicating that the OPEN 812L VoIP ATA router is expecting a number, dial the phone number to which you want to transfer to the other party. You may include an optional hash (#) at the end of the number.

Step 4: When you hear the Fast Busy Tone, hang up your phone.

9.3.5 Attended Transfer

This feature allows you to transfer an existing call to another telephone number after first consulting with the dialled party (transfer target) before hanging up.

How to use:

Step 1: During an existing call, perform a hook flash/recall to put the other party on hold and get a second dial tone at the same time.

Step 2: When you hear the dial tone, dial the telephone number to which the existing party is to be transferred.

Step 3: When the target transfer answers the phone, you may consult with the target transfer and then hang up your phone to transfer the call to the target transfer.

9.3.6 3-Way Conferencing

Two external phone numbers can be joined on a single call using the external conferencing feature.

How to use:

Step 1: Dial the first number.

Step 2: During an existing call, perform a hook flash/recall to put the first party on hold and get a second dial tone.

Step 3: When you hear the recall dial tone, dial another number and talk with the second person.

Step 4: To conference with both callers at the same time, perform a hook flash/recall.

Step 5: To drop the second call, perform a hook flash/recall after entering into conferencing mode.

NOTE	***If you hang up during conferencing, both the other parties will be disconnected from the call.***

9.3.7 Call Waiting

If someone calls you while you are speaking on the telephone, the OPEN 812L VoIP ATA router indicates this by playing a Call Waiting Tone. You can answer this call by pressing the flash/recall button or perform a hook flash.

How to use:

Step 1: If the OPEN 812L VoIP ATA router is configured to use *Call Waiting*, press ****70*** (optionally followed by #) on the telephone dial-pad to disable *Call Waiting* for the duration of the following call.

Step 2: You will hear a confirmed tone followed by the dial tone. If you hang up with or without making the call, the ATA will enable the Call-Waiting tone again.

Step 3: If the OPEN 812L VoIP ATA router is not configured to use Call Waiting, pressing ****70*** results in fast-busy tone.

NOTE	***When the sequence of digits *70 is entered, the sequence could match the Call-Waiting rule or the Default Number Call rule. To execute the command immediately, press #. Otherwise, the action will execute after 4 seconds.***

9.3.8 Call Forwarding

The OPEN 812L VoIP ATA router can control call forwarding at the end-point level. There are three types of call forwarding:

- *Call Forwarding Unconditional* - Forwards every incoming call;
- *Call Forwarding When Busy* - Forwards incoming calls only when the line is busy;
- *Call Forwarding on No Answer* - Forwards incoming calls only when the telephone is not answered after the configured period.

9.3.8.1 Call Forwarding Unconditionally

How to use:

Step 1: Press ****72*** on your telephone dial-pad.

Step 2: After you hear a brief alert tone (default is 100 milliseconds), enter the number that is up to 15 digits of the calling party's number that you want to forward the call to. Then press hash, '#' (this is optional).

Step 3: If you entered a number to forward the call to, the OPEN 812L VoIP ATA router will attempt to call that number. Once you disconnect the attempted call, in subsequent call attempts, you will hear the stutter dial tone indicating that *Unconditional Call Forwarding* is enabled.

9.3.8.2 Call Forwarding On Busy

How to use:

Step 1: Press ****74*** on your telephone dial-pad.

Step 2: After you hear a very brief alert tone (default is 100 milliseconds), enter the number that is up to 15 digits of the calling party's number that you want to forward the call to. Then press hash, '#' (this is optional).

Step 3: If you entered a number to forward the call to, the OPEN 812L VoIP ATA router will attempt to call that number.

NOTE	***Call Forwarding on Busy is not effective for the second incoming call if the Call Waiting feature is enabled on the line.***

9.3.8.3 Call Forwarding On No Answer

How to use:

Step 1: Press ****75*** on your telephone dial-pad.

Step 2: After you hear a very brief alert tone (the default is 100 milliseconds), enter the number that is up to 15 digits of the calling party's number that you want to forward the call to. Then press hash, '#' (this is optional).

Step 3: If you entered a number to forward the call to, the OPEN 812L VoIP ATA router will attempt to call that number. Once you disconnect the attempted call, in subsequent call attempts, you will hear the stutter dial tone indicating that *Unconditional Call Forwarding* is enabled.

9.3.8.4 Cancelling Call Forwarding

How to use:

Option 1: To cancel *Unconditional Call Forwarding*, press ****73*** (optionally followed by #) on your telephone dial-pad.

Option 2: To cancel *Call Forwarding On Busy*, press ****76*** (optionally followed by #) on your telephone dial-pad.

Option 3: To cancel Call Forwarding on No Answer, press ****77*** (optionally followed by #) on your telephone dial-pad.

NOTE	***When the sequence of digits *73, *76 or *77 is entered, the sequence could match the Cancel Unconditional Call Forwarding, Cancel Call Forwarding on Busy, Cancel Call Forwarding on No Answer or the Default Number Call rule. To execute the command immediately, press #. Otherwise, the action will execute after 4 seconds.***

9.3.9 Call Return

The OPEN 812L VoIP ATA router provides the facility to call back the last incoming call that may have been missed. This is especially useful when the phone does not have caller-id facility, does not support *Caller ID* facility or does not support *Call Waiting Caller ID*.

How to use:

Step 1: Press ****69*** (optionally followed by **#**) on your telephone dial-pad to return the last incoming call.

Step 2: When the sequence of digits *69 is entered, the sequence could match *Call Return* or the *Default Number* call rule.

NOTE	***When the sequence of digits *69 is entered, the sequence could match Call Return or the Default Number Call rule. To execute the command immediately, press #. Otherwise, the action will execute after 4 seconds.***

9.3.10 IP Dialing

The OPEN 812L VoIP ATA router provides the facility to do IP Dialling from the dial-pad. This is especially useful for advanced users who know the IP address of the other end and want to call it directly without going through any SIP proxy server.

How to use:

Step 1: Press ****47*** followed by the URL of the remote party, followed by a # sign to send out the call immediately.

Step 2: The remote party's URL has the following syntax.

<user number>**<IP segment1>*<IP segment2>*<IP segment3>*<IP segment4>*<SIP Port>

The user number and SIP Port fields are optional. In case the SIP Port is not mentioned, the default 5060 port is used.

Some valid IP dial call examples are:

*4712345**172*25*20*178*5060#

*47172*25*20*179#

NOTE	***When the sequence of digits *47 is entered, the sequence could match IP Dialing rule or the Default Number Call rule. To execute the command immediately, press #. Otherwise, the action will execute after 4 seconds.***

9.3.11 Speed Dialling for Address Book Entries

The OPEN 812L VoIP ATA router provides the facility of speed dialling for entries configured in the address book.

How to use:

Step 1: Press ****78*** followed by the speed dial or address book entry index (0 - 9) on your telephone dial-pad to dial the number corresponding to the entry specified in the address book.

If the address book contains only one phone number, the call will be made through the configured proxy server. If the entire URL is present in the address book, the call will be treated as an IP-dialled call.

10. Troubleshooting

If the OPEN 812L VoIP ATA router is not functioning properly, check this section for the troubleshooting scenario before contacting your service provider.

10.1 Problems starting up the router

Problem	Corrective Action
None of the LEDs are on when you turn on the router.	Check the connection between the power adaptor and the OPEN 812L VoIP ATA router is connected to the power source. Check all cable connections. If the error persists, you may have a hardware problem. In this case you should contact technical support.
You have forgotten your router login and/or password.	Try the default login and password. If this fails, you can restore your router to its default factory settings by holding the *Reset* button on the back of your router for more than 3 seconds.

10.2 Problems Connecting to the Internet

Problem	Corrective Action
Cannot access the Internet	1. Verify that the Internet connection settings are set up correctly by checking the following pages: - DHCP Client: Ensure that this function is ENABLED; - PPP: Ensure that this function is ENABLED if the ADSL modem is in bridged mode. 2. Check that the cables are all connected correctly.

10.3 Problems with the Telephone Line

Problem	Corrective Action
There is no dial tone	Check the telephone connections. You can test the telephone cable by using it to connect to a telephone wall jack and check for a dial tone.
The dial tone beeps (pulses)	Make sure your VSP settings are properly configured. The dial tone is steady when the SIP account is registered.
Cannot make or receive VoIP calls	Check that your VSP account status in the ***Overall Status*** page is registered. Make sure that you have configured your VSP's details correctly. If you configured a SIP account to receive calls on only one of the telephone ports, make sure your telephone is connected to that port.
Cannot make or receive PSTN calls	Check that all the cables are connected correctly.

11. Appendices

11.1 Dial Plan Quick Reference Guide

Start Service Feature	Default Dial-Pad Code
Enable Unconditional Call Forwarding	*72
Disable Unconditional Call Forwarding	*73
Enable Call Forwarding on Busy	*74
Enable Call Forwarding on No Answer	*75
Temporary Disable Call Waiting	*70
Call Return	*69
Blind Transfer	*90
IP Dialling	*47
Speed Dialling from Address Book	*78
PSTN Call	#
Disable Call Forwarding on Busy	*76
Disable Call Forwarding on No Answer	*77

11.2 Glossary Table

Acronym	Definition
ADSL	Asymmetric Digital Subscriber Line
ANSI	American National Standards Institute
AP	Access Point
ARP	Address Resolution Protocol
ATA	Analogue Telephone Adapter
ATM	Asynchronous Transfer Mode
CHAP	Challenge Handshake Authentication Protocol
CID	Caller ID (PSTN)
CO	Corporate Office
CNG	Comfort Noise Generation
DDNS	Dynamic Domain Name System
DHCP	Dynamic Host Control Protocol
DMZ	Demilitarized Zone
DNS	Domain Name System
DoS	Denial of Service
DSCP	Differentiated Service Code Protocol
DSL	Digital Subscriber Line
DSP	Digital Signal Processing
ESSID	Extended Service Set Identification
FTP	File Transfer Protocol
FXO	Foreign Exchange Office
FXS	Foreign Exchange Station
GUI	Graphical User Interface
HTTP	Hypertext Transfer Protocol
IAD	Integrated Access Device
IANA	Internet Assigned Numbers Authority
ICMP	Internet Control Message Protocol
IDS	Intrusion Detection System
IGMP	Internet Group Management Protocol
IMAP	Internet Message Access Protocol
IP	Internet Protocol
IPCP	Internet Protocol Control Protocol
IPoA	Internet Protocol over ATM
LAN	Local Area Network
LCP	Link Control Protocol
LED	Light Emitting Diode

Acronym	Definition
LLC	Link Level Control
MAC	Media Access Control
MBPS	Megabits per second
MD5	Message-Digest Algorithm 5
MIC	Message Integrity Code
MRU	Maximum Receive Unit
MSS	Maximum Segment Size
MTU	Maximum Transmission Unit
MWI	Message Waiting Indicator
NAT	Network Address Translation
NAPT	Network Address and Protocol Translator
NBNS	Net-Bios Name Service
NetBIOS	Network Basic Input/Output System
NFS	Network File System
NIC	Network Interface Card
PAP	Password Authentication Protocol
POP3	Post Office Protocol
POTS	Plain Old Telephone Service
PPP	Point-To-Point Protocol
PPPoA	Point-To-Point Protocol over ATM
PPPoE	Point-To-Point Protocol over Ethernet
PSTN	Public Switched Telephone Network
PTM	Packet Telephony Module
PVID	Port VLAN Identifier
PVC	Permanent Virtual Circuit
QoS	Quality of Service
RFC	Request for Comments
RIP	Routing Information Protocol
RTP	Real-time Transport Protocol
SIP	Session Initiation Protocol
SNMP	Simple Network Management Protocol
SNTP	Simple Network Time Protocol
SPI	Stateful Packet Installation
SSID	Service Set Identification
STUN	Simple Traversal of UDP through NATs
TCP/IP	Transfer Control Protocol/Internet Protocol
TFTP	Trivial File Transfer Protocol
TKIP	Temporal Key Integrity Protocol
TOS	Type of Services

Acronym	Definition
UDP	User Datagram Protocol
UPnP	Universal Plug and Play
VAD	Voice Activity Detection
VC	Virtual Circuit
VCI	Virtual Channel Identifier
VLAN	Virtual Local Area Network
VoIP	Voice Over Internet Protocol
VPI	Virtual Path Identifier
VSP	Voice Service Provider
WAN	Wide Area Network
WDS	Wireless Distribution System
WEP	Wireless Equivalent Privacy
WLAN	Wireless Local Area Network
WPA	Wi-Fi Protected Access